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LECTURE IX.

PHYSIC AND POISON IDENTICAL—REMEDIAL MEANS INCLUDE EVERY THING IN NATURE—ACTION OF MEDICINAL SUBSTANCES PROVED TO BE ELECTRICAL—PARTICULAR REMEDIES, AND WHY THEY EFFECT PARTICULAR PARTS.

GENTLEMEN,

From the History of Medicine we learn, that after Charms came Simples. To the list of our remedial means, chance and experience successively added Poisons.—“V, therefore” asked Pliny, “has our mother, the Earth, brought forth so many deadly drugs, but, that when wearied with suffering, we may employ them for suicide?” If such was the opinion of the polished Roman, can you wonder at the belief of the rude Carib, and the still ruder Boschman, that poisons were sent them for the destruction of their national enemies? The friends of the Chrono-thermal system see the matter in another light. In common with the believers of the Christian creed, they assume, that the beneficent Creator of all things sent nothing into the world for the destruction of his creatures. By the motion of men's hands the Pyramids were produced. The same motion, acting reversely, might make them vanish from the plains where they have stood, the wonder of centuries. If the identical power, then, which may render a temple or a tower a heap of ruins, applied in another fashion to the materials composing it, first erected the fabric—why may not the motive power of a physical agent, which wrongly administered, has destroyed the life of man, be em-

ployed, in a right direction, to preserve his existence?

“Philosophy, wisdom and liberty support each other;—he who will not reason is a bigot—he who cannot is a fool—and he who dares not is a slave!—[Sir William Drummond.] The base and selfish, of all ages have ruled mankind by terror. By this the priest has trampled down reason; the despot, the rights of a people. To this passion the charlatan appeals, when he sneeringly speaks of particular substances as poisons, the better to distinguish them from his own nostrum of universal and absolute safety? What is the real meaning of the word poison? In its popular sense, it signifies any thing in nature, that, in a comparatively small quantity, can shorten, or otherwise prove injurious to life. It is, then a term of relation—a term depending entirely on degree, volume, or scale. But what is there under heaven, when tried by this test, that may not become a poison? Food, fire, water, air, are these absolutely innocuous? The glutton dies of the meal that gorged him; is that a reason why we should never eat? The child is accidentally involved in the flames of a furnace; must we, on that account, deny ourselves the warmth of the winter-hearth?—Air has chilled, and water drowned; must we, therefore, abandon air and water?—Yet, this is the mode in which certain wiseacres reason on medicine! We must cease, according to these praters, to use opium medicinally—opium which, in one degree, has so often given relief to suffering; because the suicide, in another, has settled his earthly account with it! We must repudiate the curative effects of arsenic in Ague; because, with a thousand times the quantity adequate to that desirable end, the cut-throat and the poisoner have despatched their victims by arsenic! We must linger life away in the agonies of gout and rheumatism, instead of resorting to colchicum,

which has so often cured both; because people have been accidentally destroyed by colchicum in a volume, never given for either rheumatism or gout! How many diseases has not prussic acid cured or alleviated; yet we must abjure its benign influence in this way, forsooth; because lovesick maidens, and men maddened by misfortune, have ended their lives with prussic acid, in a quantity which no body ever dreamt of giving for any disease whatever! By the same enlightened Philosophy, we must not pat a child's head, because a blow might knock it down! Gentlemen, need I tell you, that the whole of these agents, in their medicinal doses, are as safe as rhubarb in its medicinal dose; and safer than wine to some people, in the quantity usually taken at table. But granting that, even in their medicinal doses, they all, in common with every thing in existence, occasionally produce the temporary inconvenience of disagreeable feeling—is that any reason why we should abandon their use, in the cure of diseases attended with feelings for the most part more sensibly disagreeable! What on earth, worth accomplishing, was ever accomplished without a similar risk? We cannot cross a thoroughfare without the risk of being jostled—ergo, we must never cross a thoroughfare! Gentlemen, *ubi virus ibi virtus*, is as true in most things as in medicine! Poison and physic are, in truth, *one and identical* for any earthly agent may become both, by turns, according as it is used or abused. A German poet rightly observes—

Divide the THUNDER into single notes,
And it is but a lullaby for children;
But, pour it in *one volume* on the air,
And the intensity makes heaven to shake.

The same rule holds good in physic.—Everything depends on the scale or degree in which you apply a given substance to the body, and the particular circumstances and condition of the body at the time, whether such substance be a remedy or a poison.—What is there that pertains to earth or air, that we may not usefully employ? If Man, in his ignorance or depravity, turn a particular power to evil account instead of to good, shall blame be imputed to the Almighty, who bestowed it on him as a boon? Let babblers beware how they commit themselves in this matter;—let them fully understand, that when they decry any agent in nature as being, in the abstract, a dangerous medicine, or a poison, they not only arraign God for his goodness, but expose, at the same time, their utter ignorance of his laws. Where

men have not examined, surely it were only policy to be silent. Do medical practitioners ever prate in this language of imbecility? Too frequently, Gentlemen:—but in their case, it generally proceeds less from a want of knowledge of the subject, than from a wish to disparage a professional competitor. Sordid practitioners know that there is no readier mode of influencing the sick, than by playing upon their fears. Not a week passes, but I am told by some patient—"Oh, I showed your prescription to Dr. So-and-so and he said it contains poison!"—"Bless my life! I generally answer, what a wonderful thing. Why, then, does not Dr. So-and-so get the College of Physicians indicted for the introduction of such substances into their medicinal pharmacopeia? Why does he not gravely arraign them for the processes which they have devised for the preparation of "medicinal" arsenic, "medicinal" opium, "medicinal" prussic acid,—and tell them boldly and at once that these are all so many concentrated essences of death and destruction, which no skill can render valuable, no scale of diminution adapt to the relief or cure of their suffering fellow-creatures.—Only let Dr. So-and-so put down, in writing, that any of these substances ever poisoned any body, in the dose and at the age for which I and others prescribe it, and I shall have the pleasure of publishing the fact to the professional world, for their future edification. To whisper away an honorable man's reputation in a corner where he has no opportunity of reply, though a pitiful thing to do, is nevertheless a thing very often and very successfully done;—to write or reason down the same man's character unfairly, on paper, is more difficult. Cautions—doubts—insinuations—these are the weapons by which you will be secretly supplanted in practice. Yes, Gentlemen, individuals who call themselves physicians, and who, without a scruple, would pour out a pint of your heart's blood at a time, will effect to start at the sixteenth part of a grain of strychnine, and shrug their shoulders significantly, at two drops of prussic acid! "How easy to put such men down," I have been told. You have only to ask them, if they ever knew an adult die of either medicine in these doses?—and dare them to say, that they have not themselves killed hundreds, by taking away a less quantity of blood than a pint!" Both of these I have certainly done—but *cui bono*?—Reason and sense were on my side, it is true!—but what will either reason or sense avail him who stands, as I stand, ALONE—when his enemies have a party to back them, with the patient's prejudices and fears in their favor besides?

The practitioners of whom I speak, are all so many links of an extensive chain of secret and systematic collusion; they are all bound to support and keep by each other;—they have signs and counter-signs, and a common story to tell; these men, like false dicers, do deeds “never dreamt of in your philosophy.” In a word, so far as medicine and medical practice are concerned, the English public are, at this moment, very much in the same blissful state of ignorance as the Emperor Constantine was with the doings of his guards—“But still—but still,” said Sebasites of Mytilene, “were the Emperor to discover—” “Ass,” replied Harpax, “he cannot discover, if he had all the eyes of Argus’s tail! Here are twelve of us, sworn, according to the rules of our watch, to abide in the same story”—[*Count Robert of Paris*]. If such and similarly constituted, be the medical coteries of England, what honorable physician can hope to rise in his profession, until the eyes of the public be opened! Sir James Mackintosh was not the only man of talent who left it in disgust—Locke, Crabbe, Sir Humphrey Davy, the present Master of the Rolls Lord Langdale, and hundreds of others, have done the same.—Depend upon it, in these days, it is only the quack and the unprincipled practitioner who makes fortunes by physic.

But to return to medicines and their doses. What substance in the *Materia Medica* would be worth a rush, if it were absolutely innocuous in every dose and degree? You all know, that rhubarb and magnesia may each be given medicinally, to the extent of many grains;—but, may not both be so advanced in the scale of quantity, as to become equally fatal as strychnine or arsenic—were strychnine or arsenic to be taken in the usual dose of rhubarb or magnesia? May not our deadliest drugs, on the other hand, be so reduced in volume as to become as innocuous, to an adult at least, as twenty grains of rhubarb would be to an infant? Surely, there is not one of you, whether sick or well, would object to an infinitesimal dose of arsenic—the millionth or decillionth part of a grain, for example! Ah, these homœopaths! I question if they always keep to such doses; for, when a man makes up his own medicines, he may gull his patients as he pleases. But, be that as it may, there can be no surer test of imposture, than to be told you may take any medicine in any quantity? Can food itself be thus taken? If it could, where would be the necessity of cautioning gluttons about their diet? In truth you can scarcely mention any one edible substance, that will agree, even in a moderate quantity, with all patients. One

person cannot eat oysters, without becoming the subject of a rash. Another, the moment he eats poultry or veal, gets sick at stomach, though mutton and beef have no such effect on him. See, then, the truth of the old proverb.—What is one man’s meat is another man’s poison.” Chesterfield says it is vulgar to quote proverbs; but Chesterfield was a lord, and a man of fashion—and as I have no ambition to be either, you will pardon me for preferring, with Cervantes, to strengthen my argument with their pith and point—not only because there is no proverb that is not true, but, because they are all sentences drawn from Experience, the mother of the sciences.

In further illustration of this subject, I pass to the lower animals; and here again you will find that no earthly agent has been given us for absolute evil, inasmuch as substances which, in comparatively small quantities, may poison one class of beings, are food to another, in a volume comparatively large. The sweet almond, for example, so nutritious to man, is deleterious to the fox, the dog, and domestic fowl. The hog may be poisoned by pepper, the parrot by parsley, stramonium, or thorn-apple, which, when we prescribe it in physic, we do cautiously, and in small quantities, is greedily devoured by the pheasant with impunity; fowl enjoy the darnal—hogs, the deadly night-shade.—The water-hemlock, which is poison to all three, in common with man, is a most nutritious food to the stork, sheep, and goat.—And the wolf is reported to take without inconvenience a quantity of arsenic which would destroy the horse. You see, then, how completely the word poison is a term of relation.

The infinity of substances which have been successfully applied to remedial purposes, whether derived from the animal, vegetable, or mineral kingdom, like the various Causes of the Diseases for which we administer them, will all, upon investigation, be found to have the most perfect unity in their mode of action. Their influence relates solely to their motive power, differing from each other, where they do differ, merely in their capability of changing in this way, the atomic relations of a particular locality or tissue rather than another, but in no other way presenting a doubt or difficulty as to their *modus operandi*. What John Hunter said of poisons, applies of course to remedies; they “take their place in the body as if allotted to them.” Thus, Mercury and Iodine, in whatever manner introduced into the system, will still manifest their action, chiefly by changes in the motion of the glands and their secretions; while Strychnine

and Brucine, on the other hand, will as constantly produce their effects on the motive condition of the muscles. Through the medium of the nerves of a part, the greater number of medicinal substances, even when directly introduced into the veins, will produce their particular effects, good or bad, according to circumstances, upon that part. When thus administered, Antimony will prove equally emetic, as when introduced into the stomach, Rhubarb equally purgative and Opium as certainly soporific. Is not this the best of all proofs; how surely these agents were intended by the Deity for the use of man?

If you ask a teacher of medicine, why opium sets you to sleep, his answer will be—"from its Narcotic power." What can be more satisfactory? Nineteen out of twenty students at least, are satisfied with it—they are delighted when told in Greek, that it does set them to sleep! Why does rhubarb purge? "From its Cathartic power," you will be told;—what does that mean? simply that it purges! Again you demand how does antimony vomit—again you get the Greek reply, "from its Emetic power;" in plain English it vomits! Such is the mode in which the schoolmen juggle: instead of an answer they give you an echo! Had these logomachists—these word-mongers, been as well acquainted with the motions of living things as with the inflections of dead languages, and the anatomy of dead bodies, they would long ago have preferred reasoning to mystification. But for the last ten centuries at least, professors have been doing little else but splitting straws, blowing bubbles, and giving a mighty great degree of gravity to feathers! We shall endeavor to develop what their answers show they are utterly ignorant of—the Unity of Action of all Remedies.

What are the forces which, by their harmonious movement in a material body, make the sum total of the economy of the life of that body? Vital chemistry, electricity, magnetism, mechanics. By these forces are all the internal movements of a man periodically produced, and by the analogous external forces only, can the material of all animal life be sustained, and otherwise influenced from without. When rightly considered, every force in nature will be found to resolve itself into a cause of motion simply—motion forward, or motion backward—motion outward, or motion inward. Chemistry, Electricity, Magnetism, Mechanics, can each of them do no more than, by their attractive power, bring things or their atoms into closer proximity; or place them, by the force of repulsion, at a greater distance from

each other. Attraction and Repulsion then, are the two grand forces by which, not the motions of man only, but the motions of the Universe, are kept in control; and by these forces, and no other, can animal life be influenced either for good or for evil, whatever be the nature of the material agent by which they may be called into play.

REMEDIAL MEANS.

may include every description of force: The Bandage, Splint, and Tooth-forceps are familiar examples of the Mechanical kind; while to Chemistry, among other things, medical men owe the Alkalis and Earths they use as palliatives in the treatment of acidity of the stomach. But the purely Medicinal agents—what is the mode of action of these? How do opium, strychnine, arsenic, and prussic acid act? Chemically it cannot be,—for they produce no chemical change,—no visible decomposition of the various parts of the body over which they exert their respective influences. What, then, is their action? no man in his senses would suppose it to be Mechanical. One of two things it must be then, Electrical or Magnetic—for these are the only other forces in nature to which we can apply for an explanation. But, Gentlemen, are not these two forces one? nay, under the term Electricity, do not practical philosophers include chemistry also? No person in the least conversant with the physical sciences would now dispute, what Mr Faraday was the first to prove, that all three are in reality mere modifications of one great source of power. For not only can the electrical force be so managed as to produce attraction and repulsion in all bodies, without in any way altering their constituent nature, but it can also, in most cases, be so applied to every compound body as to cause a true chemical decomposition of its ultimate principles. By the same universal power we can either make iron magnetic, or deprive it of the magnetic virtue. We can, moreover, reverse by its means the polarity of the needle of a ship's compass. Is electricity, then the source of Medicinal agency—the source of power by which opium and arsenic kill and cure? Before the question can be satisfactorily answered, we must first know the effect of the direct application of electricity to animal life. What is its action when directly applied to living man? Gentlemen, it has caused, cured, and aggravated almost every disease you can name,—whether it has come in the shape of the thunder-storm, or been artificially induced by the far less energetic combinations of human invention. It, as in the case of the magnetic phenome-

na, it can produce, take away, and reverse the polarity or motive power of the needle, so also can it give, take away, and reverse every one of the particular functional motions of the various parts of the living body to which it may, under peculiar circumstances, be applied. It has cured palsy, and caused it also; but has not strychnia done the same? In common with arsenic, it has made the stoutest and bravest shake in every limb; and like the same agent, it has cured the ague. In what, then, does its action differ from arsenic here? If it has set one man to sleep and kept another wakeful, opium has done both. Electricity has cured cramp and caused it; so have prussic acid and nitrate of silver. Do we not prove, then, beyond the possibility of question, that the action of these medicinal substances is purely electrical? By precisely the same power, mercury salivates, antimony vomits, and rhubarb purges. By the very same power they may all produce reverse effects. The primitive agency of the purely Medicinal substances, then, is one and the same, namely, the power of electrically moving the body in some of its various parts or atoms, inwards or outwards, according to the previous state of the vital electricity of the brain of the different individuals to whom they may be administered. For, through the medium of the Brain and Nerves, do all such substances primarily act. The ultimate and apparently unlike results of the action of different substances, depend entirely on the apparent dissimilarity of the functions of the organs they respectively influence. As already stated, the temperature of the part or organ of a living body thus motively influenced, becomes in every case correspondingly altered. If it be asked in what manner opium or antimony can alter the temperature or motion of any organ through its nerves, I can only refer to the analogous changes which take place in chemistry, through the medium of the electric chain or galvanic wire. When acted upon by either, bodies which were previously cold become instantaneously heated, and vice versa, motion being the equally instantaneous effect in both cases. And, according to the degree and duration of the electrical force applied, do such bodies become simply electrified—preserving still their usual appearance and nature,—or chemically decomposed in some of their constituent principles—their atoms in either case being repelled or attracted in a novel manner. In a manner perfectly analogous, do every and all of our purely Medicinal substances act on the living organism. On the dead, if they exercise any influence at all, it can only be by preventing the putre-

factive process, or by chemically decomposing the various parts. The older writers were right when they said "*Medicina non agit in cadaver*"*

If you again demand how a given substance shall influence one part of the system rather than another, I must again recur to chemistry. Have we not elective affinity, or a disposition in inorganic bodies to combine with, and alter the motions or modes of particular bodies rather than others? By an elective vital affinity precisely similar, do opium and strychnia, when introduced into the living system, produce their respective effects; they manifest a similar choice of parts—the elective power of the one substance being shown by its influence on the nerves of sense, and that of the other by its effect on the nerves of the muscular apparatus. But here again, you may, with the most perfect propriety, ask, why the influence of opium on the brain should set one man to sleep, and keep another from sleeping? and why strychnia, by a similar difference of cerebral action, should paralyze the nerves of motion in one case, and wake to motion the nerves of the paralytic in another? The answer is simple, and it affords a fresh illustration of the truth of this Electrical doctrine. The atoms of the specific portion of brain of any two individuals thus oppositely influenced in either case, must be in opposite conditions of vital electricity—negative in one, and positive in the other. And what but opposite results could possibly be the effect of any agent acting electrically on any two similar bodies, whether living or dead, when placed under electrical circumstances so diametrically opposite? In common with all medicinal substances, opium and strychnia may produce inverse motions—motions outward or motions inward, according to the particular electrical condition of the living body to which they may be applied. And in this instance again, they only harmonize with everything we know of the great universal force to which we ascribe their medicinal influence. Their ultimate agency depends on attraction and repulsion. Here then, Gentlemen, you have the most satisfactory explanation of an infinity of facts

* Arsenic, oxy muriate of mercury, and alcohol in minute doses, act electrically on the living stomach, whether for good or for evil. In large doses all three act chemically upon the same organ; for they then invariably decompose it; but the same doses applied to the dead stomach preserve it from (the putrefactive) decomposition. The mineral acids, when properly diluted, act electrically upon the living economy. In their concentrated state they decompose every part of the body, whether living or dead, to which they may be applied. The poisons of the cobra and rattlesnake, so deadly to other animals, have no visible effect upon their respective species. What but electricity in its various modifications, can explain all this?

which, from their supposed confiction, have up to this hour, puzzled every teacher and professor that ever endeavored to grapple with the subject. The merit of this explanation I exclusively claim; and I state my right to it thus distinctly, that no F. R. S., no Queen's Physician Extraordinary, or other great official, may hereafter have any excuse for attempting to snatch it from me—whether through ignorance or forgetfulness of my name and writings he venture to predict its future discovery, or deal it out bit by bit to his readers, in the equally novel shape of question and suggestion! Yes, Gentlemen, I exclusively claim the electrical doctrine of medicinal agency as mine—a doctrine which affords an easy solution of the greater number of difficulties by which our art has hitherto been surrounded. By following out its principles, you see at once why colchicum, mercury, and turpentine, can all three cause and cure rheumatism—why acetate of lead can produce and relieve salivation—why cubeb and copaiba have relieved gonorrhœa in one man, and aggravated the same disease in another—why musk may excite and stop palpitation of the heart—why the Fevers of puberty, pregnancy, and small-pox, have each cured and caused every species of disorder incident to the respective subjects of them—and why the Passions have done the same. Now, what better proof could you have of the real nature of the passions than this? What better evidence that rage, terror, joy, surprise, are each and all of them indubitable fevers, than that each and all of them have cured, caused, aggravated, and alleviated almost every human disease—every ache and ailment to which man is liable, from ague to epilepsy—from toothache to the gout! Like opium and quinine, every one of these passions has a double electrical agency—in one case reversing the particular cerebral movements on which existing symptoms depend—in which case it alleviates or cures;—in another, calling them up, or only adding to their rapidity when present—in which case it causes and aggravates simply.

But we have yet to account for certain apparently anomalous effects of all medicines—we have still to explain to you why opium for example, instead of producing its usual somnolent or insomnolent influence upon particular individuals, acts upon him in the same manner as antimony or ipecacuan—and why these particular medicines, instead of producing their usual emetic effect in individual cases, only purge the patient:—or, (as I have occasionally found them do) set him to sleep more surely than henbane or opium. Gentlemen, did opium or antimony uniformly affect the identical portion of brain in all

persons, either medicine could never do more than one of two things in any person, namely aggravate or ameliorate the particular symptoms which, in all healthy persons, it then most certainly could never fail of producing. But in common with all medicines, the elective affinity of each of these particular substances may be different in different persons, from difference of constitution. The same medicines, then, do not always influence the same cerebral parts. The usual elective affinity of opium and antimony may be quite reversed in particular patients. Now, as all medicinal agents act solely by changing the cerebral movements of the part over which they exercise their respective influence, antimony and opium, by changing their usual places in the system, change their respective characters accordingly. Antimony, then, either becomes a narcotic, or keeps the patient wakeful. Opium in like manner, either becomes an emetic, or the reverse of an emetic—whatever that be. See then, how cautious you ought to be in every new case of disease for which you may be consulted,—and how necessary it is to exercise all your powers of circumspection in practice. When you prescribe medicine of any kind, you ought to feel your way with the smallest available dose—the smallest dose from which you might, from your experience, expect an appreciable effect whether for good or for evil—for, remember, not only do all medicines occasionally manifest a different elective affinity from that which they usually exercise; but, even when they act in their more ordinary course, they have still the double power of attraction and repulsion—the power of aggravating or alleviating the symptoms for which you prescribe. Indeed, by these two powers and no other—attraction and repulsion,—we are compelled to explain every variety of change which the body assumes, whether in health or disease. By attraction, the fluid matter of a secretion becomes consistent and organised, again to be thrown off, by the same organ, in the fluid form of secretion by repulsion.

If this be true, Gentlemen, change of temperature, of itself, ought to produce, in living bodies, every constitutional and local change—every vitiation and variation, whether in gland or muscle, nerve or blood-vessel, that ever formed the subject of medical investigation. That it can do so, might be proved from every thing we know of life, and the laws of life. What disease have not cold and heat produced?—What, in the shape of the warm and cold baths, have they not cured? Look, again at the effect of heat upon the egg. Even when artificially applied, we see this apparently ine

body converted, by thermal influence, into bone, skin, and muscle, with their proper apparatus of blood-vessels and nerves! You will tell me, the egg was predisposed to such changes. True; and change of temperature can only act upon all things, according to their original predisposition. Is not this the reason why a chill will produce rheumatism in one man, and consumption in another? Through thermal influence, the wool of the sheep and the feathers of the hen, may in successive generations be replaced with hair;—certain viviparous animals may even be made oviparous in this manner. The aphid and the wood-louse, for example, may be made to bring forth either eggs or live young at the pleasure of the experimenter, by simply varying the temperature in which he keeps them. Then again, look at the effects of temperature upon the vegetable world! If, in the middle of winter, you introduce the branch of a vine, which happens to grow by your window, into your warm chamber, and keep it there a few weeks, it will put forth leaves and blossoms. See, then, the wide and omnipotent influence of temperature on every living thing, from man, who only attains the maturity of his growth in the course of successive summers, to the gourd, that springs up and perishes in a night!

Having premised this much, we shall now. Gentlemen, enter upon a consideration of particular medicines. And first, let us speak of such as have a general constitutional influence, with an affinity, more or less marked, for particular organs.—Of these, the most important are—

EMETICS.—When the various doctrines, which attributed all diseases to acrimonies, peccant humors, crudities, &c., prevailed in the schools, Emetics were among the principal remedies to which physicians very naturally resorted, as a preliminary means of cure. The beneficial effect observed to take place after vomiting, in the early stage of almost all disorders, was, of course, urged in confirmation of theories, which, even in the present day, are not without their influence on the minds of medical men. The primary action of emetics we hold to be Cerebral, and the act of vomiting, not so much a cause of the other constitutional symptoms which accompany it, as one of many effects produced by change in the atomic revolutions of the Brain. Whatever will suddenly influence the brain, in any unusual or novel manner, by changing its temperature and atomic motion, must necessarily change the whole corporeal state, whether it be, at the time, in health or disease. Have we not this familiarly exemplified, in the motion which causes sea-sickness—in the sickness produced

by the rotatory chair, and in the morning vomitings of early pregnancy? Anything that can withdraw the brain's attention from the stomach, such as a passion, a blow on the head, loss of blood, or a division of the nerves that supply it, may produce vomiting. Experience every day shows us, that the shivering or shudder liable to be occasioned by one cause, may be averted or cut short by agents, which, under different circumstances, can of themselves produce such muscular tremor. It is thus that the emetic exerts its salutary influence in disease. No man can take a vomit, without every part of the body undergoing some change during its operation. A creeping sensation is immediately felt in every part—a sensation, demonstrative of the rapid revolution and change of relation of every corporeal atom. Under the influence of such an agency, you may see the reddened and swollen eye, or testis, become, in a few minutes, of nearly its natural appearance,—nay, a complete abatement of pain in either organ, may be an equally rapid result. Who, then, will tell me, that the same effect may not take place from the employment of an emetic, in what are termed inflammations of the lungs or bowels? Oh, “all experience is against it,” I have been told—All experience!—whose experience? I have asked; but I never got an answer, for nobody had ever tried!

But, for a period now of five years, Staff-Surgeon Hume, in his Military Hospital, has treated his pleuritic and enteritic patients in this manner: during all that time he has not bled or leached one patient for any disease—he has used emetics instead—and his practice has been beyond all precedent successful. Now, that I call a Fact—a fact worth all the hypothetical assumptions of all these doctors, whose gains depend, not so much on speedy cure, as on protracted sickness! There is no part of the body that you may not influence by an emetic;—the old physicians knew it—the physicians of an age gone by. They gave emetics in the case of Typhus even—Typhus in a royal patient. “Louis XIV.,” says Mr. James, “was seized with symptoms of illness, and all the marks of Typhus Fever, of the most malignant kind, soon discovered themselves. The whole court was in consternation, the queen in despair, and Mazarin in a state of anxiety and apprehension, which deprived him of all the resources of that art which usually concealed his emotions. Foreseeing that his rule would terminate with the life of Louis, he took every precaution for the purpose of carrying his treasures out of France; but he began to pay court also to those who were about the person of the king's younger

brother, and even to several of that prince's attendants whom he had mal-treated on former occasions. The young king was carried to Calais in his carriage, as to a more healthy spot; but the disease only became worse every hour: the physicians declared that the case was beyond hope; and Bussy assures us that a number of the courtiers even went and congratulated the young Duke of Anjou on his accession to the throne. Louis himself does not seem to have lost his senses or his presence of mind; he spoke with calmness of his approaching fate; and sending for Mazarin, he said to him, 'You have always been one of my best friends: the queen, my mother, loves me too much to tell me the danger in which I am; do not flatter me in the least; speak to me only, in order that I may look into my own conscience, and make preparation for death.' He spoke in the same strain several times, showing no weak clinging to the temporal crown that seemed about to pass away, but looking forward from the brink of the grave into eternity with that calm firmness which might well do honor to a king. Mazarin was too much agitated and terrified to use any concealment; with fears and sighs, he acknowledged to Louis at once the danger in which he was; and the young monarch openly seemed grateful to him for not having concealed his situation. A physician of great repute, however, was at length brought from Abbeville, and declaring that the King's case was by no means hopeless, he obtained permission to administer to him a remedy, which there is every reason to believe was merely antimonial wine. Louis was so much relieved by the first emetic, that he willingly took a second dose, and, from that day, the fever abated, and health gradually returned. Joy and satisfaction spread throughout France."—[*Jame's Life and Times of Louis XIV.*]

A medical officer, of the East India Company's service, sent for me at midnight, and you may imagine the pain he was suffering, when I tell you that I heard his groans before I reached his chamber. Shortly after leaving a crowded theatre, he had imprudently taken his place on the top of one of the night coaches, where he had not been long seated before he was seized with repeated shivering, followed by fever, and exquisite pain in the back and loins—in medical phrase, *lumbago*. When I saw him he had all the symptoms which, in the Schools, are termed high inflammatory fever, and he complained of agonizing pain in his back. His wish was to be bled, but I prescribed an emetic instead, and this relieved him in the briefest space imaginable. From the mo-

ment he vomited, his back became easier, and in a few minutes he was quite free from pain—a result equally pleasing and astonishing to the patient, who, on a previous occasion, had been confined six weeks to bed with a similar attack, notwithstanding repeated bleedings, leechings, and blisters. Another gentleman who shortly after came under my care, experienced a like relief from the use of an emetic in nearly the same circumstances. In the first case, I followed up the emetic with hydrocyanic acid; in the second, I prescribed quinine and sulphuric acid—the latter, my more general mode of treatment in acute disease. Cases without number could I give of the beneficial influence of this practice in acute ophthalmia, sore-throat, pleurisy, rheumatism, &c.,—diseases which, under the usual or orthodox measures, would have kept the physician in attendance for weeks, and then, perhaps, have defied both his aid and his art. With the same practice, I have had equal success in the treatment of hæmorrhages, eruptive fevers, &c.; and I might here give cases corroborative of my assertion, were I not borne out by many of the older writers, particularly Heberden and Parr, who found emetics, followed by Bark, to be the best primary treatment of disorder generally. John Hunter says, he has "seen Buboes (collections of matter in the groin) cured by a vomit, after suppuration had been considerably advanced,"—and he has "known a large bubo, which was just ready to break, absorbed from a few days' sickness at sea." He attests the cure of "White-swelling" or knee consumption by emetics—and the value of the same class of medicines in pulmonary consumption, has been strongly insisted upon by many writers. In physic, as in everything else, there is a fashion; but the "great men" of our day, notwithstanding their reiterated assertions to the contrary, would do well, in more instances than these, to imitate the old practice.

The principal substances used as emetics are Antimony, Ipecacuan, Zinc, and Copper,—but a great many others might be added,—tobacco, squill, and colchicum in large doses, to say nothing of luke-warm water, which last, from its relation to temperature, will readily occur to you as the best exponent of the mode of action of all. With some people opium will vomit, where ipecacuan would fail. There are individuals whom no known agent can vomit, and others, in whom the common emetics act always as purgatives. This you cannot, of course, know before-hand; so that the experience of every individual case, is the only rule by which such case is to be treated. We must now speak of

PURGATIVES, or those medicines which influence the intestinal secretions. Like most remedies these all act through the medium of the Brain—but, from ignorance of their mode of action, practitioners have too frequently converted them into a cause of disease and death. The man who proceeds, day by day, to purge away “morbid secretions,” “peccant humours,” &c., is a mere humoralist, who neither knows the manner in which his medicines operate, nor understands the nature of the wonderful machine, whose disordered springs he pretends to rectify. Do not let me be understood to deprecate purgative medicines—As a remedial means they are inferior to emetics;—when combined with these, they are amongst the best medicines with which to commence the treatment of disease generally,—that is, where the patient has not been previously reduced by protracted suffering. It has been my fate to witness no inconsiderable amount of mischief induced by a mistaken perseverance in purgative measures. Will nothing open the eyes of gentlemen of the humoral school? Surely they will be staggered when told, that in an evil hour the exhibition of a purge has been followed by a paroxysm of gout! Yet nothing is more true or better avouched. “Reasoning upon this simple fact,” Dr. Parr says, “the humoral theory of gout is altogether untenable.” And so is Dr. Holland’s hypothesis of its being caused by a “morbid ingredient in the blood.” When I say I have known fatal fevers produced by medicines of this class, some may be sceptical; but few will doubt their power to produce Dysentery, which, in the words of Cullen, is an “inward fever.”—“A dose of rhubarb,” says Dr. Thomson, “has produced every symptom of epilepsy, and, in an instance within my own observation, the smallest dose of calomel has caused the most alarming syncope” or faint. —Let us use, not abuse, purgative medicines!

MERCURY.—The frequency with which mercury and its preparation Calomel, enter into medical prescription—its beneficial and baneful influence in the practice of our art, render a knowledge of the true action of this metal, and the proper mode of its exhibition, matters of no ordinary importance.

What are the forms of disorder in which mercury is supposed to be most useful? The records of the profession answer, fever, iritis, erysipelas, dysentery, rheumatism, cutaneous, osseous, and glandular disturbances. To the same records. I appeal for testimony to the truth of my statement, that it has too frequently produced those very maladies in all and every of their forms and variations. Its influence extends principally over the glandular and assimilative systems; it has

consequently a great effect on secretion. I have known mercury in small doses cure what is termed scrofula hundreds of times; yet according to Sir. Charles Bell, and I can bear him out in the fact, when wrongly applied mercury has set up “a scrofulous diathesis in the very best constitutions.” “I have seen a person,” says Dr. Graves, “labouring under mercurial irritation, seized with common fever, which afterwards became Typhus, and proved fatal in five days. Still you will hear persons say, that if you get a fever-patient under the influence of mercury, you will cure the disease, and that mercurial irritation will protect a man against fever. I have known Jaundice to appear during a course of mercury.”—Jaundice, for which some say it is a specific! When you hear a man talking of specifics you may well laugh at him! The value of all medicines has more or less relation to the quantity prescribed. Upon this subject, I think it material to speak regarding mercury; for in consequence of the enormous doses which have been exhibited by certain pseudo-physicians—certain writers on Infantile and Tropical disease—this substance, instead of being a blessing to humanity, has recently become one of the chief agents in man’s destruction! You daily see medical men—men who never reflect upon the effect of any medicine—prescribing four, five, and six grains of calomel to children—to infants! Can you wonder at the frightful number of deaths that take place under seven years of age? Look at the bills of infantile mortality; and if you consider the quantity of calomel that children take, you will assuredly be compelled to declare, not how little medicine has done for the prolongation of life—but how much it has done to shorten it! Oh! you may depend upon it, there is a great deal of mischief done by the profession; that is the reason why the people go to the quacks and the Homeopaths. The latter are the least mischievous, for—if they actually give their medicines in the ridiculous doses they pretend—they do little more than hocus their patients with words, while the quacks and the medical men kill them wholesale by physic—physic wrongly applied. Many years have now passed since Mr. Abernethy first advocated the employment of mercury in moderate doses. More recent writers have demonstrated the value of calomel in doses so minute as the twelfth and even sixteenth part of a grain. Combined with equally minute quantities of quinine, I have been for years in the habit of prescribing it in such doses, in all diseases of children, and I have found it invaluable in most. If, with such minute doses of mercury, then, the practi-

tioner may obtain the most excellent effects: what shall we say to the exhibition of four and five-grain doses of calomel to infants? What language can be sufficiently strong to denounce the equally daring practice of ordering scruple-doses of the same powerful mercurial for adults? That individuals occasionally recover from serious disease, after the unsparing use of calomel in such doses, is no more an argument in favor of such a mode of treatment, than that many a man has been knocked down by a blow, and lived to laugh at a description of accident to which others have succumbed.—To reason in this manner is to argue that blows are good things. In saying this much I do not mean to raise objections to calomel as a purgative, —in which case a larger dose is necessary. But how often do you see this mercurial given in enormous and repeated doses, with the view of correcting morbid secretions, which inquiry might have satisfactorily traced to the previous mal-administration of calomel itself. Calomel, like every other remedial means, is a medicine or a poison, according to the quantity of the agent, and its fitness or unfitness for the constitution of the patient. This last, as we have previously hinted, depends upon the electrical state of the individual body, and can only be known by trial. You cannot tell that a given piece of steel is magnetic or not till you try; no more can you tell the electrical state of the living body. It is only by experience you can know it. Calomel, then, has no exclusive relation to nomenclature; yet you will hear practitioners say, "It is not proper for this disease, but it is proper for that;"—"it is good for jaundice, but bad for consumption. All this is mere scholastic folly, based upon "the baseless fabric" of a hypothesis! There is no disease, however named, where the administration of mercury, in some of its preparations, may not be advantageously employed or the reverse, according to particular doses and constitutions. How is it that the oxymercurate of mercury, formerly so much extolled by physicians, is now so seldom prescribed? A more effective remedy for numerous forms of disease is scarcely to be found in the *Materia Medica*. I have more particularly experienced its valuable aid in the treatment of dropsy, dyspepsia, paralysis, and eruptions. Very analogous to mercury in its mode of action is

IODINE.—Its influence on glandular parts, and consequently upon secretion, is very remarkable. But, Gentlemen, like every other remedial agent Iodine cuts two ways—attracting or lessening volume and secretion in one case, atonically repelling or increasing both in another—according to the

electric state of the individual body for which it may be prescribed. Now, the fact that iodine can cause as well as cure glandular diseases is not known to the profession; at least, I have not seen it noticed in the course of my reading. It behoves me therefore to state, that I have been frequently obliged to countermand its exhibition in the treatment of bronchocele and other enlarged glands, from the obvious increase of these tumours under its use. In such cases, patients have told me they were not so well in themselves, that they had shivering fits or suffered from inward fever; for, like mercury, iodine has also a general febrile effect upon the system, for good in one case, for evil in another. As regards my own practice, I have found quinine more generally successful in the treatment of glandular affections than iodine. In a case of goitre that resisted both, a very great diminution of the swelling took place after a short trial of arsenic. But here I may observe, that a remedy which may be found to be generally well adapted to the treatment of a particular type of disorder in one locality may be found to be as generally prejudicial when applied to the same type in another. This, to a certain extent, may account for the encomiums which individual medicines receive from the profession one day, and the contempt with which they are very often treated the next. With iodine I have cured osseous and cutaneous complaints; and I have also found it useful in the treatment of pithitis and dropsy.

LEAD.—The acetate of Lead is a valuable agent in good hands, and was long celebrated as a remedy for consumption. I have cured eruptions by it, eruptions that resisted everything else I could think of. "One effect of the continued use of acetate of lead," says Dr. A. T. Thomson, "is the excitement of ptyalism (salivation,) but notwithstanding this effect it has been recommended by Mr. Daniels for the purpose of allaying violent salivation, in doses of ten grains to a scruple, in conjunction with ten grains of compound powder of ipecacuan; how," asks Dr. Thomson, "are these contending opinions to be reconciled?" How, but by the rule that the power which can move one way, may move the other, according to the electrical condition of the individual brain. This question, coming from a professor of *materia medica*, shows you how much professors have yet to learn about the action of medicines.

TAR—CREOSOTE.—From innumerable trials of Tar, and its preparation Creosote, I am enabled to speak satisfactorily of the remedial power of both. In small doses, creosote produces a mild fever, often beneficial in dyspeptic and hysterical cases, though

in some instances, like every other agent in nature, it occasionally disagrees. I have been obliged sometimes to discontinue its use from the vomiting of which the patient complained after taking it, though where vomiting was a previous symptom, I have succeeded in stopping it by creosote. Generally speaking, I have found creosote an excellent remedy in dropsy, rheumatism, and cutaneous disorders. I once cured with it a case of amaurotic blindness of both eyes, where the disease was of considerable standing. The remedy was pushed as high as twenty drops for a dose; I commenced with two drops. The efficacy of tar-water in the treatment of all kinds of disease was the universal belief of the latter half of the last century. The celebrated Bishop Berkley wrote a treatise which contributed greatly to bring it into fashion. "From my representing tar-water," he says, "as good for so many things, some perhaps may conclude it is good for nothing; but charity obligeth me to say what I know and what I think, howsoever it may be taken. Men may censure and object as much as they please, but I appeal to time and experiment:—effects misimputed—cases wrong told—circumstances overlooked—perhaps, too, prejudices and partialities against truth may, for a time, prevail and keep her at the bottom of her well, from whence, nevertheless, she emerges sooner or later, and strikes the eyes of all who do not keep them shut." The Bishop sums up the catalogue of its virtues, by saying, "It is of admirable use in FEVERS."

SULPHUR—though now seldom used, except for diseases of the skin, was long extensively employed in physic. With the vulgar, it is still a remedy for ague. Like creosote, it produces a mild febrile effect, which may be turned to account in numerous disorders, especially in dyspepsia, hysteria, and also in rheumatism, which last I have often cured with it, after every other remedy usually employed for that distemper had successively failed. The most generally influential agent in rheumatism, is

COLCHICUM, OR MEADOW SAFFRON, the medicinal principle of which is an alkali, termed *veratria*, or veratrine, and an admirable medicine it is, when carefully and cautiously administered. Now colchicum, like sulphur, has cured the ague; and its efficacy in this case depends upon the mild febrile action, which, like hope, or joy, it has the power of producing. If it has relieved pain and swelling in many cases, so also can it produce both; a reason why you should watch its effects, for where it fails to improve, it commonly aggravates. Like all other medicinal agents, it is a motive power, and

if it fail to move matter the right way, it must occasionally move it the wrong. The mildest remedial substance, when taken by a person in perfect health, if it act at all, must act prejudicial. What is the action of colchicum, in such cases? According to the journals of the day, pains of the joints and feet were among the symptoms produced by it when accidentally taken in poisonous quantities by previously healthy persons—the very pains for which we find it available in practice!

SQUILL, DIGITALIS.—Are physicians aware that both of these substances have the power of suspending as well as of increasing the secretion from the kidneys? They are often continued too long in dropsy, to the prejudice of the patient, from practitioners being ignorant of their double action. But in this respect they only harmonize with all known agents. The electrical state of the body, which cannot be known but by an experience of their effects upon it, determines whether squill or digitalis prove aggravant or remedial.

STRAMONIUM, OR THORNAPPLE is used by the Asiatics, in their treatment of mania—a disease which it has produced. It can also produce eruptions in the skin, a fact which led me to try its effect in cutaneous disease. Combined with *belladonna*, I have cured some very obstinate eruptions with stramonium. I have also employed the same combination advantageously in pulmonary consumption. The general action of both remedies in small doses, is mildly febrile. Their use sometimes produces a temporary dimness of sight, which goes off when the remedies are stopped.

TOBACCO, LOBELIA INFLATA.—Tobacco is a valuable remedy, when properly prescribed, and it may be administered internally, as well as externally. I have found its internal use, in the shape of tincture, efficacious in dropsy and asthma. Heberden cured a case of epilepsy, by applying a cataplasm of tobacco to the pit of the stomach. The *lobelia inflata*, or American tobacco, is a good diuretic, and has cured asthma. Like the common tobacco, it produces sickness, in large doses.

THE BALSAMS AND GUMS.—Copaiba, turpentine, and guaiac, powerfully influence mucous surfaces, in one case increasing secretion, in another suspending it. They have all produced and cured rheumatism. With turpentine, I have cured cases of Iritis, which resisted mercury and quinine. Copaiba in some constitutions produces cuticular eruption so like small-pox, that even medical men have supposed it to be that disease. Others putting this rash down to a fanciful cause called Syphilis, have gravely proceeded

to ruin their patients' constitutions with mercury, to cure what they were pleased to call "secondary symptoms!"

CANTHARIDES OR SPANISH FLY—This is principally used as a blister; but the tincture of Spanish fly is an admirable internal remedy for gleet and leucorrhœa, and it is also among our best diuretics; remember, however, it can produce strangury, an opposite effect. I am in the habit of combining it with quinine and prussic acid, in the treatment of dyspeptic cases, and I find it useful also in cuticular disease; though in the case of a gentleman—a colonel of the army—a blister to the side had twice the effect of blistering him all over!

THE EARTHS AND ALKALIS have all particular effects upon the body, according to the mode and degree in which they are administered. Besides their constitutional influence, each has more or less affinity to special organs. Lime and Barytes influence the secretions of the stomach; Soda and Potash those of the lungs, kidney, and bladder; Ammonia or hartshorn affects the salivary glands—each for good or for evil, according to its dose and fitness for particular constitutions. The earth called Alum is a favorite with the common people, in the cure of ague. What is its mode of action? Its power of astringency or attraction simply—the same power by which it arrests the morbid increase of secretion, called leucorrhœa. How does it do that? By its attractive influence over the atoms of the spine and the nerves proceeding from the spine. Well, then, that is the way in which it cures the ague. The greater number of

THE ACIDS have been usefully employed in medicine. Acetic acid, or vinegar, is an old remedy for hiccup, and might be efficacious in other spasmodic diseases. Dilute sulphuric acid has cured the ague, among other disorders. With dilute nitric acid, I have arrested and increased almost every secretion of the body, according to varying circumstances. For a gentleman who was affected with vertigo and tremor, I prescribed dilute nitric acid, which cured him; his wife, by mistake, took his medicine for her own, and in a few minutes after she was affected with a tremor, that lasted for nearly an hour! You see, as a general rule, then, that whatever can move one way, can move the other.

Gentlemen, the medicines of which I have given you some account to-day, are the principal SYMPTOMATIC medicines which I employ in my own practice, combining or alternating them, as I have already stated, with the chrono-thermal remedies. But there are thousands of other agents, which may be usefully employed in this manner, and a great

number are mentioned in our books of *Materia Medica*. What I have said on the action of remedies generally, will apply to all. At our next lecture, I shall give you some account of the principal chrono-thermal agents—and conclude the course, by a general summary of the chrono-thermal doctrine.

SWEDENBORG'S ANIMAL KINGDOM.

Introductory Remarks by the Translator,

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[Continued from page 33.]

We promised at the outset to speak of the relation in which Swedenborg's philosophy stands to the science of the day, but it will now be seen that there is no direct relation between the two, but a plenary repugnancy. For the one is order, the other is chaos; the one is concentration, the other is infinite division; the one enlarges its limits in that interior world where creation exists in all its spiritual amplitude, the other loses its limits, and its distinct life along with them, in the great vacuities of space and time; the one is a rod and staff giving the mind a practical support in the exploration of nature's fields; the other is a mist of hypotheses crawling along the ground, and making every step uncertain and perilous.

The science of the moderns tends to bury physiology more and more within the schools; that of Swedenborg will ultimately shed it abroad as a universal light which like that of the sun belongs in justness to all mankind. In this respect science is situated precisely as theology. There is no difficulty in either but what man himself induces. The whole scheme of true theology is so simple that the humblest capacity may understand it; and so coherent, that the memory may retain even its details without the slightest difficulty. So in a measure will it be with a true science. The appointed professors of the true theology must be amenable to a common knowledge thereof existing in the understandings of their flocks and congregations. So must it be at last with the professional bodies appointed to preside over a true science. In a word, under the influence of the New Church, a protestant state must come over science itself; the bible of nature must be opened to the public as well as to the professions; and the professions themselves must be content to accept their position, from standing in a

clear and recognized connexion with the common sense of mankind, as brought into play upon their own subjects.

The relation in which Swedenborg stands to the philosophers may be briefly characterized. The analysis and classification of the conditions and states of the mind is a subject which he has only touched on incidentally in the "Animal Kingdom." He maintains that the influx of the soul into the body is truly synthetic, or *a priori ad posteriora*, but that the instruction and information of the rational mind is necessarily analytic, *a posteriori ad priora*; not that the senses generate the mind, but that they supply it with materials, and externally excite it to activity; the soul similarly exciting it internally. With respect to that mentalism which has been introduced since Swedenborg's time by Kant and his followers, the writings of Swedenborg distinctly involve it, but then our author adds to its forms life and substance, and displays a world co-ordinate with each plane of the human faculties, without which man would not exist in nature. By virtue of this, what are mere abstract categories and ideas in the one, are organic causes in the other, (Swedenborg says, "all causes must be formed organically,") and the mind is allied to the body through the whole scale of its ascent. But there is one department of metaphysics or ontology which finds no countenance in Swedenborg; viz., the two schemes of materialism, and immaterialism, or as it is falsely called, spiritualism, as opposed to, and opposing, each other. The controversy between these two he declares to be "a battle of words," a play of "shadowy sophisms," a "game at chess in the high city of literature;" and he refers the whole misunderstanding to ignorance of the doctrines of forms and degrees.* For this war respecting the substance of which things are made, tends to divert the mind from the successive order of nature, and to plunge it at one leap in the occult; consequently to induce it to omit all the series of forms that intermediate between the body and the soul. The words mind and matter in this case stand for two substances under one form, and it is not easy to see how the one can be preferable to the other, or how thought can be influenced by either of them. As systems of causation therefore, the rule of use protests against them both. The main argument of Bishop Berkeley, that his hypothesis causes no difference to our sensations,

must be admitted, and it is conclusive against immaterialism. Why introduce an element that confessedly plays no part in our affairs?† Both these schemes are essentially controversial or negative, and if either of them could be subtracted, the other would no longer be capable of an ex-

† If it be alleged that immaterialism produces philosophical results, and is capable of being expanded into a system, we reply to this, that wherever such results appear to follow it, they arise in reality from the tacit intermingling of some organic element of thought in the premises, the presence of which element is not perceived. It would be easy to illustrate this by a criticism of any of the philosophical and religious consequences which are supposed to flow from immaterialism, and to prove that those consequences are not the fruits of the immaterialism, but of other grounds co existing with it in the mind. But the demonstration would carry us beyond the design of the present remarks. With respect to substance, it may be expedient to observe, that the word is commonly used in two meanings, both of which are true, and must concur to a complete idea of the thing. Firstly, it is used in a universal, generative and active sense, as the elemental ground of matter, and as the spiritual ground of the natural world, in which partial sense, substance is spiritual, and its operation purely synthetic. Secondly, it is used in a general, formative, and passive sense, as the complex, continent, and basis of interiors and universals, in which partial sense, substance is material, and its operation purely separative or analytic. But the complete idea of substance is the result of the union of these two senses; in other words, of the ordinary notions of both substance and form; which although two elements in thought, are not two in reality, but "distinctly one." Swedenborg clearly shows both in his philosophical and religious works, (which indeed are perfectly at one on this subject,) that we must take a bodily as well as a mental view of substance. It may be sufficient to cite the following passage from his work on "Heaven and Hell." "Man," says he "cannot exercise thought and will at all unless there be a subject, which is a substance, from and in which he exerts those faculties. Whatever is imagined to exist, and yet to be destitute of a substantial subject, is nothing at all. This may be known from the fact, that man cannot see without an organ as the subject of sight, nor hear without an organ as the subject of hearing. Without such organ, sight and hearing are nothing, and have no existence. It is the same with thought, which is internal sight, and with apprehension, which is internal hearing; unless these existed in, and from, substances, which are organic forms,—they could not exist at all," &c. (n. 434.)

* See the "Economy of the Animal Kingdom," tr. ii., n. 311; and the "Worship and Love of God," n. 53, note (p.)

pression. Both of them tacitly deny the order of nature, and therefore they can never minister at the altar of true science.—Matter and substance may be opposites, but this has nothing to do with the question of the existence of matter. The mind is a substance, but this likewise in no way touches the existence of matter. The question of the existence of matter is perfectly distinct from the question of its substance. What then is the definition of a substance? It is evident that a substance is the ground of a particular existence; and equally so, that the only ground for which anything exists is the end or use that it will subserve in the creation. The particular end or use, then of each thing is its substance. But ends and uses in themselves are spiritual. In order, therefore, that this end or use may institute a series in nature, it must put on a natural form; and the first form that it so assumes, the form of the first degree, is the substance or unit of the whole series, as being all and all throughout the subsequent degrees: it is the universal of the series, as being, by virtue of the properties of its form, universally present, potent, active, &c., in the entire progression of the thing that it constitutes. It is the relation that this unit bears to order, degrees and series, that makes it into a substance and not into an accident. Hence it is order that determines substance, and hence too every substance is an organic form, as being the intaiment of all the forms of its series. Mental admissions of substance which do not involve forms analogous to those of the natural creation, are mere terms without ideas: views of mind, thought or affection, which contemplate these subjects otherwise than as prototypes of the human body, are vacant of meaning; metaphysics without they rest upon the order of physics, are a soul without a body, and belong neither to this world nor to the next. Whatever defects the understanding from order, as the question of questions, defects it equally from both mind and matter, and consigns it proportionably to the "shadowy sophisms" of materialism or immaterialism. In the highest sense God is the only substance, and yet in a true sense, each degree is a substance to that proximately below it. All finite differences are in reality variations of form determined by uses in their order. Each degree involves the repetition in itself of all the three degrees, of end, cause, and effect; and hence nature itself is full of substances—of bodies possessing real trine dimension,—and matter also involves as many substances as it has distinct forms. If we suppose that nature is a mere surface, we manifestly indispose the mind for admitting a doctrine of

forms, consequently we detain it in the last degree, and in the lowest plane of imagery, and when this is the case we must look upon science as something which exists by courtesy, a record of appearances and superficialities which are only presented to us to be negated. Thus the spiritual violates the natural, instead of leaning upon it, as a house upon its foundation. But let no logic disturb our foundations thus: the principle of use, and the test of results, furnish a more conclusive experiment of ideas than any syllogistic process; for they scrutinize the end, and not only the means. This principle and test declare to us, that in the investigation of nature, we are to keep our minds in the idea of order, as manifested in successive degrees of forms, forces, operations and uses, and that then we are legitimately studying the nature of substance in the only meaning that it has for finite beings. Other substance than this is a figment, which is rendered necessary by nothing in the theory of causation, because it will legitimately account for nothing. It has no function in the new state of things but belongs essentially to the scholasticism of a past church.

Having now briefly indicated the relation between Swedenborg's science and philosophy, and that of his own and the present time, we have still to speak of a few points which more particularly belong to the Work before us.

The reader may probably be led to enquire, how far the "Animal Kingdom" embodies doctrines which were current at Swedenborg's day, and how far its deductions are peculiar to our author. To this it may be answered, that many doctrines to be met with in the Work are by no means peculiar to Swedenborg, but were the common intellectual property of his contemporaries and predecessors. We have seen that a host of writers held the doctrine of the animal spirits. It was also no uncommon belief that they were elaborated by the cortical substances of the brain, and circulated through the nerves. Vieussens held that there were distinct degrees of them. Brunn propounded the same doctrine as Swedenborg respecting the pituitary gland; and numerous instances to the same effect might readily be adduced from other writers. Perhaps the best means to be certified on this head, will be by the perusal of Boerhaave's "*Institutiones Medicæ*,"—a work where the theories of ages are condensed into an eclectic system. It appears as though Swedenborg freely availed himself of the treasures that were accumulated around him and before him, and was altogether destitute of that passion for originality which has been the besetting sin of so many

or the learned. He distinctly states that he has relied upon his own experience to but a small extent, and that he has deemed it wiser, for the most part, to "borrow from others." So also where he found true doctrines and deductions,—these likewise he borrowed, and this, with generously grateful acknowledgment. But what he really brought to the task were those great principles of order to which we have before alluded, and which touched nothing they did not universalize and adorn; nay, which built the materials of experience and the deductions of reason into a glorious palace that truths could inhabit. It is as the architect of this edifice that Swedenborg is to be viewed, and his merits are to be sought for not so much in its separate stones, as in the grand harmonies and colossal proportions of the whole.

After this statement it is scarcely necessary to observe, that Swedenborg is not to be resorted to as an authority for anatomical facts. It is said, indeed, that he has made various discoveries in anatomy, and the canal named the "foramen of Monro" is instanced among these.† Supposing that it were so, it would be dishonoring Swedenborg to lay any stress upon a circumstance so trivial. Whoever discovered this foramen was most probably led to it by the lucky slip of a probe. But other claims are made for our author by his injudicious friends. It is said that he anticipated some of the most valuable novelties of more recent date, such as the phrenological doctrine of the great Gall, and the newly practised art of animal magnetism. This is not quite fair: let every benefactor to mankind have his own honorable wreath, nor let one leaf be stolen from it for the already laureled brow of Swedenborg. True it is that all these things, and many more, lie in ovo in the universal principles made known through him, but they were not developed by him in that order which constitutes all their novelty, and in fact their distinct existence. For in the first place it is impossible for the human mind to anticipate facts; these must always be learnt by the senses: and secondly, Swedenborg was too much a man of business to turn aside from the direct means to his end, or to attempt to develop anything beyond those means. His philosophy is the high road from the natural world to the spiritual, and of course has innumerable lateral branches leading to the several fair regions of human knowledge: but through none of these by-ways had Swedenborg time to travel; nay, could he have done

so, there is nothing to shew that he would there have discovered what his successors have done. He had his mission, and they have theirs. His views are at harmony with all that is new and true, simply because they are universal, but in no fair sense do they anticipate, much less supersede, the scientific peculium of the present century. Swedenborg, therefore, is not to be regarded as an Aristotle governing the human mind, and indisposing it to the instruction designed to be gained from nature; but as a propounder of principles the result of analysis, and of a method that is to excite us to a perpetual study in the field of effects, as a condition of the progress of science,

The anatomical knowledge possessed by Swedenborg was undoubtedly very extensive. He appears to have studied more by plates than by actual dissection, as almost any one would do who had in view the same end as himself. This will be regarded as an unpardonable vice by physiologists. But why should the knowledge of the human frame be limited to the dissecting-room? Why should it be the appendage of one craft, and not an inheritance of universal humanity? Why should the truths of the body be the exclusive property of physicians, any more than the truths of the soul the exclusive property of the clergy? Have we not all souls, have we not all bodies? Now good and accurate plates, corrected and generalized during several ages, are far more valuable and available as a basis of general education, such as the New Church must ultimately desire, than either dissections or preparations. It is something that they carry none of the adjuncts of death, disease, or putrefaction; that they do not hinder the mind from recollecting that life and motion are the import and lesson of the body. It is something that they may be placed within the reach of all. Swedenborg has set the example of what may be done by studying them, and his readers must follow the same course if they wish to profit by his instructions.*

The professional reader of the "Animal Kingdom" will not fail to discover that the author has fallen into various anatomical errors of minor importance, and that there are occasionally marks of haste in his performance. This may be conceded without in any degree detracting from the character of the work. These errors do not involve matters of principle. The course which

* "Economy of the Animal Kingdom" tr. i., n. 18.

† See "Animal Kingdom," vol. 1, p. 250, n. 190, note (r.)

* The beautiful little book by Erasmus Wilson, entitled, "The Anatomist's Vade Mecum," may be recommended to the readers of the "Animal Kingdom," for the number, of excellent plates that it contains.

Swedenborg adopted, of founding his theory upon general experience, and of only resorting to particular facts as confirmations, so equilibrates and compensates all misstatements of the kind, that they may be rejected from the result as unimportant. To dwell upon them as serious, and still more to make the merit of the theory hinge upon them, is worthy only of a "minute philosopher," who has some low rule whereby to judge a truth, instead of the law of use. Such unhappily was the rule adopted by the reviewer of the "*Animal Kingdom*" in the "*Acta Eruditorum Lipsiensia*" (1747, pp. 507--514;) the book was despised by this critic because Swedenborg had committed an error in describing the muscles of the tongue, and because he had cited the plates of Bidloo and Verheyen, which Heister and Morgagni had then made it a fashion to disparage; and for other equally inconclusive reasons. All they amounted to was, that Swedenborg had not accomplished the reviewer's end, however thoroughly he had performed his own.

But fortunately such criticisms are never decisive; a single truth can outlive ten thousand of them. The "*Animal Kingdom*" appeals to the world at this time, a hundred years since the publication of the original, as a new production, having all the claims of an unjudged book upon our regards. For during that hundred years not a single writer has appeared in the learned world, who has in the slightest degree comprehended its design, or mastered its principles and details. The reviewer to whom we have more than once alluded, judged it by a standard which was suited only to an anatomical manual and text-book. Haller bestowed a few words upon it in his invaluable "*Bibliotheca Anatomica*," but he knew nothing of Swedenborg's views; and his notice of the "*Economy of the Animal Kingdom*," contains errors too numerous not to invalidate his censure, had he bestowed it, which however he has not done directly. Sprengel in his "*History of Medicine*," has offered a few lines upon the work, but these merely of a bibliographical import. The past therefore has found no fault in it, and it comes before the reader with an uninjured character, and demands as a good, true, and useful book to be taken into his service, and to receive a full trial at his hands. The modern physiologists have no theory of their own, have no reference to it, nor until they quit their present ground can they be allowed to have an opinion on the subject. Their censure would not be more relevant than would the opposition of a Red Indian to the problems of the mathematics.

But it may fairly be asked, what are the

prospects that the "*Animal Kingdom*," and the scientific works of Swedenborg generally, will be received at this day, when they refer to an order of facts almost forgotten, when they involve a scientific terminology which has become partially obsolete, and especially when it is considered that there never perhaps was an age so well satisfied with itself and its own achievements as the present one; Their prospects in the high places of science are not indeed encouraging: it would be vain to build up hopes in that quarter, or to address expostulations to it. A commission of any Royal Academy in Christendom would soon decide our claims in the negative. But fortunately there are abundant signs of a breaking up.

The scientific world, and specifically the medical world, which is always the highest exponent of the state of science, is in a state of intestine revolution; nay, what is saying much, it is nearly as full of dissension as the church itself. It would be exceedingly unpalatable to dwell upon its divisions, to specify the sects which have separated from the maternal body, and to shew the irreconcilable nature of the differences that subsist between orthodox medicine and her refractory children. The future historian, standing upon the grave of once venerated institutions may do this with impartiality, and not without a feeling of pity. Meanwhile it is our privilege to rejoice, that amid the decadence of science new ground is being broken, and new spirits raised up, to some of whom the new truth may be accommodated and delightful.

We use the phrase "new truth," although the works which contain it have been buried in the dust for a whole century; but in so doing we simply allude to the principles involved in those works. The confirmatory facts by which these principles were brought into relation with the science of Swedenborg's day, may doubtless from time to time be superseded by better attestations: particular facts are but the crutches of a new theory, and are not strictly speaking its basis; for the basis itself is spiritual, since it is the order and tenor of effects that form it, and not the matter. The principles themselves are eternal truths,—the same yesterday, to-day, and for ever. They are not attached for more than a time, or for any end but necessity of use, to any one range of facts, or to the books of any one author,—no, not even of a Swedenborg.

There are cycles in all things, and even now there are some indications of a revival of medical learning. The weakness of the present state of things is perceived by those who have no appreciation of its barrenness; the temper of the public is an unmistakable

demonstration to this effect. Hence many begin to revert to the past, and laying aside for a moment the vociferation of "march of intellect" and "progress of the species," they are content to march and progress, like the crab, backwards and to claim Hippocrates and Galen, and Sydenham as their fathers. This is at any rate so far good, that it shews how a forgotten range of facts and an antiquated terminology may be re-acquired as soon as there is a sufficient motive: nay, it nourishes the hope, that under the pressure from without, the large body of dependents, if not the feudal lord of science, may come to even greater and more unexpected results than these. Who shall say that they may not ultimately see that it is their interest, as practitioners of medicine, to deposit their cloke of mystifications, to bring to market something which is intelligible and useful to humanity, to go wherever truth leads them, even though that truth be "stranger than fiction," and to come to our Swedenborg in his double character, and acknowledge with humble thankfulness that a greater than Hippocrates is here,—a man who has married practice to theory, who has dissected the living body without destroying it, and has so opened the science of anatomy and physiology, that they must sooner or later become branches of human education, in which case the medical profession will have a solid basis in the social world, and he as a golden crown of wisdom and practice resting securely upon the correct knowledge and common sense of mankind.

To all those who are in possession of truths which are not recognized, or are rejected, by the systems of the day, the writings of Swedenborg may be perfectly invaluable. Those writings will prevent them from being dependent, in any department of reason, upon the old state of science. They will furnish a high rallying point where a number of such distinct truths may be combined, and derive that strength which is the result of union, and especially of the union of truths. They will put weapons of offence and defence in the hands of causes which are now repressed almost into nothingness, and give power to those which are strong in spirit, yet weak in body. They will add force to faith, and sustain the earnest soul through the day of small things, and meanwhile yield it a peaceful delight prophetic of a glorious future. To all such persons these writings ought to be as glad tidings, and should be received with hearty thankfulness, and a determination to lose no time in converting them to use.

But it is on the New Church itself that Swedenborg's scientific works have the high-

est claim. They were written, indeed, to convince the skeptic, yet perhaps their chief end may be to confirm the believer. They disclose the intellectual use of nature, as being a theatre of instruction where man may learn the highest truths in the lowest form, and from which he may mount upwards, on the ladder of divine order, until the intellect merges in the moral sphere. They proclaim that in this course of true instruction there is nothing to be unlearned, either in this life or in that which is to come, but that our limits are to be successively enlarged, and all that is real and positive ever carried forwards into the proximately succeeding state. For these works are thoroughly congruous with the theology of the New Church. The order which they show to exist in nature, is the very mirror of the order that reigns in the spiritual world. They mark the successive stages through which Swedenborg was led by the Divine Providence, until he was capable of that interior state in which his spiritual eyes were opened, and the inner world disclosed to his view; and as they were therefore the means, so were they in unison with the end. The doctrines which they set forth respecting the human body are reiterated with scarcely an omission in his theological treatises, and particularly in his "*Arcana Cælestia*," where they serve as the ground-work of his stupendous descriptions of the life of man after death, when he is associated with his like, according to the laws of order and degrees, and if he be capable of it, becomes a part of the grand human form of heaven. It is therefore at once edifying and delightful to examine the scientific evolution of those doctrines in the "*Animal Kingdom*," and to observe how wonderfully coherent they are, and how firm they stand in nature. At the same time, far be it from us to admit, that Swedenborg's Theology was the outgrowth of his science. This has been stated to be the case, and it is an assertion easily made, a proposition which the sceptic will be too ready to conceive. But we give it a direct negative; it is the offspring of a double ignorance,—of an ignorance of both the premises. Those who are best acquainted with the writings of Swedenborg know full well that it has not a glimmer of probability to support it.

Nevertheless it may be confidently affirmed, that it is impossible to affix a meaning to much that Swedenborg has said of the human body in his theological writings, without a study of his scientific works. In this respect the former presuppose the latter as containing a body of elucidations that can-

not be obtained from the views of any other physiologist.

But these works not only support and elucidate Swedenborg's theological writings, but they also afford the members of the New Church an opportunity of descending from the spiritual sphere into the natural, and there gathering confirmations from the broad field of creation. In proportion as this is rightly done, or done for spiritual ends, there will be a regeneration of the sciences, and the ascending or analytic method will become subservient to the influx of spiritual power and truth from above.

The order of nature will be more and more seen to be at one with the order of heaven. The sciences through which nature is viewed in different aspects, will become easy of comprehension and recollection, because all their details will be ranged on the electric spirals of order. The organic sciences especially will be schools in which the great lesson of society is learnt, and the laws of government and intercourse represented. The human imagination will be limited by the truth, and will admit that all that outlies its sphere, is a monstrosity, and an outrage against the universal principles of art; and that without rational truth there can, at this day, be no true art, as there can be no heroic action. The understanding will no longer love the occult, or dwell in quiddities and logical formulas, but in the recognition of ends and uses in substantial forms. Man will see the omnipresence of God in nature, because he will contemplate a moving order perpetually tending from ends to ends, and thus involving an infinite intelligence and love in every point of its progression. There will no longer be faith alone, nor charity alone, nor works alone. The natural world will not be divorced from the spiritual, nor the body from the soul; for there will be no hostility between the different faculties of the mind, but the spiritual man will rest on the rational, and the rational on the sensual, which last will then become the enduring basis of the heavenly, and the ultimate theatre of its life and fructification. "In that day there shall be a highway out of Egypt to Assyria, and the Assyrian shall come into Egypt, and the Egyptian into Assyria, and the Egyptians shall serve with the Assyrians. In that day Israel shall be the third with Egypt and with Assyria, even a blessing in the midst of the land."

But until this prophecy is accomplished, science must be dead. For the Egypt, Assyria, and Israel of the Word, are not places, lying under a particular latitude, or confined to one planet, for the divine truth is

omnipresent, and transcends the condition of space and time; but they are general states within every man that is born into the world. The Egypt of divine truth is his scientific mind; the Assyria is his rational mind; and the Israel, his spiritual; and the prophecy here describes the true order of the influx and circulation of mental states and principles, in either an individual, a society, or the human race at large. This is the order to which we believe power will ultimately be given by Him who has all power in heaven and on earth. For we know that until it is established, opinion must be as the shifting sand; human systems must be so mortal that the mere flux of time is sufficient to destroy them; the scientific state of each age must be at the mercy of any strong man with an energetic will and an equal faculty of persuasion; since without a permanent reference to true order, intellectual feats can be measured by no standard but daring and determination. But a better time is at hand, and a better state than man deserves, or than he himself could originate. The new era has commenced already. The truths of a New Church have been revealed in the writings of Swedenborg; and in those truths and those truths alone, may science drink of the waters of immortality.

PRACTICAL REMARKS

On the Treatment of Cynanche, with Oases.

By Charles Travers Mackin, Esq., M. D.,
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Allow me the favor of inserting a few cursory remarks on a disease of common occurrence, apparently simple in itself—simpler in the indications to be followed—simplest of all, by reason, not of the hints, but of the positive directions, for its management laid down for our guidance and instruction by Dame Nature. We shall, however, see that it may, through contingencies which it were needless to enumerate, become a source of imminent danger, and as such, imperatively demand (it would seem) a painful operation for its relief, and that, too, at the hands of our elder brethren of the profession.

In a recent *Lancet* is a case of cynanche.* Before proceeding further, I would wish it to be distinctly understood, that I offer the following remarks, not for the mere purpose of criticism, but with a view of showing, as far as my limited powers will admit, that a mode of practice in similar cases, bearing a

* Case of the Rev. John M—, by Mr. Roberts, read at the Medical Society of London—January No., page 79.

strict analogy to the principles which guide us in our management of inflammatory affections in other parts of the frame, will, I have but little doubt, avert the necessity of having recourse, in cynanche, to laryngotomy, or any other final alternative of surgery.

I will first, make a short summary of the case in question; secondly, I will venture a few observations on it—taking it on its own merits, and as I find it recorded; and lastly, I shall hazard both comment and criticism by giving my own ideas of the line of practice to be followed, supporting my opinion with a few of such cases as have occurred in my own practice.

A patient is seized with soreness of the throat, on the 14th of September, accompanied by the usual constitutional disturbance. He is relieved by “appropriate measures.” On the 18th he experiences a recurrence of the same symptoms, aggravated in intensity, the left side of the throat being now attacked. Difficulty of deglutition is the most prominent local symptom, from the 18th up to five o’clock on the 19th. (Dyspnœa not being mentioned, I presume, does not exist at this stage.) He now, from the engorgement of the mucous membrane of the nares, becomes unable to respire through the nostrils. At noon on the 20th, dyspnœa manifests itself for the first time.

The then existing state of the throat is thus described—

“The *velum pendulum palati* was much reddened at its lower base. The tonsils could not be properly inspected, but did not seem to be swollen in proportion to the difficulty of deglutition. At five o’clock, the same day, there is impending asphyxia—“semi-consciousness” succeeds, and laryngotomy is performed.

The particulars of the treatment are rather ambiguous. In the first attack, “appropriate measures” were followed by relief. On a recurrence, leeches and fomentations were used unavailingly. When difficulty of breathing supervened on dysphagia, a blister was applied, and belladonna administered without benefit; and, according to the maxim, “*Le fin couronne l’ouvrage*,” laryngotomy is had recourse to, and the patient recovers.

It must be at once conceded, that this case, taking it as related, was one of cynanche. It will likewise be noted, that on the 20th Sept., or about forty-eight hours from the commencement of the second and more serious attack, the difficulty in breathing, with sibilation, was first noticed. The conclusion, then, is plain, that impeded respiration was secondary; and we must, therefore, naturally infer,

1st. That, from continuity of tissue, the

inflammation extended from the parts primarily attacked to the summit of the larynx and the surface adjoining thereto. Hence the ultimate necessity for operation.

2nd. That the standard treatment proved insufficient to check or impede its progress in any degree whatsoever.

These premises granted, we will take a general view of the indications of Nature for the reparation of inflammatory affections, from whatever cause they derive their origin.

The first of her intentions is evident. Motion of the inflamed part, tissue, or organ, must, for obvious reasons, check the reparatory process. She therefore wisely ordains that the punishment (or warning for future occasions) shall follow, close as shadow does the substance, any infringement of her directions in this respect. Hence, increase of pain is the immediate and invariable result—increase of inflammation the indirect and frequent consequence. We follow her injunction thus; if a joint be affected, we relax the muscles acting on it, set it at rest, and keep it so. If any intermediate portion of a limb be inflamed, we change not our principle, still bearing in mind her commands, which require no interpretation. Dame Nature acts without a deputy, by exercising her control, without our help, over internal organs when inflamed.

If the bladder require her assistance to prevent motion, it is at hand, and the motion of distention is rendered agonizingly painful. The urine, by her care lessened in quantity, is voided as fast as secreted.

If the kidneys, secretion is regarded or checked altogether. If the stomach, the movement of distention is summarily stopped by the immediate ejection of medicines and ingesta. If the peritonæum, respiration is generally thoracic, the diaphragm, abdominal muscles, and, consequently, the subjacent membrane in question being left in quiet. The bowels are also costive and quiescent, until unwillingly roused into action by a turpentine injection. If the costal pleura, respiration is abdominal, the intercostal muscles and ribs quiescent.

It is unnecessary to multiply examples. If the eye or any of its membranes be inflamed, we interdict and prevent, as far as we can, motion or use. If the brain or its membranes, we proscribe all sources of excitement. But if the throat be inflamed, we fulfil the foregoing plain indications after a fashion, by administering gargles, diluents, and necessary medicines, thus setting the parts in nearly constant motion which Nature tells us to prohibit; plainly erring from her directions, and our principles of treatment founded on the same.

A little further yet, let us pursue this train of reflection.

There is an impediment to the course of the circulation through a tissue in a state of inflammation. The circumjacent arteries propel their contents with increased force to overcome it. If they succeed in effecting this, resolution is the consequence. If not, how does the vis medicatrix unload the vessels of the part in question? By effusing the thinner portion of their contained fluid into the extravascular parenchyma. Tume-faction and tension are increased, and the indication thus offered is plain as the sun at noon. Well, then, we pursue the unerring instructions of our monitress by abstracting blood from the seat of discharge. This rule is not carried out, though perfectly practicable in inflammatory affections of the throat. Hence we are sometimes compelled to have recourse to laryngotomy—"an operation," says Abernethy, "which is a tacit reproach to the healing art, for it is a candid acknowledgment of our inability to cure."

If leeches be applied outside, the inner structures are influenced but little. As the swelling, which is attended with danger to life, is the swelling of the inner aspect of those structures, and as the abstraction of blood from the integuments can only influence the outer portion of the parts in question, it follows that the tendency to spread is not counteracted where counteraction might be practised with facility and probable success.

Having for some time past adopted a plan of treatment in all cases of cynanche presenting themselves, and having noted the results, both immediate and indirect, I offer it with some degree of confidence. The mode I pursue is simple and obvious enough, although I believe rarely practised. It would also seem, from the perusal of Mr. Robart's case, the discussion which ensued, and the remarks of the president, that the plan which I now proceed to describe is not generally known.

Free incisions of the tumefied parts within the throat, I have never yet seen fail of giving instant relief. I do not mean mere scratches, but one or more bold incisions, varying in depth and extent, according to the urgency of symptom and tumefaction of structure.

The operation, if it can be called such, is easily performed by any one possessed of the average amount of dexterity. The following will, I believe, be found the easiest method:—The blade of a long-handled, round-pointed scalpel is covered with adhesive plaster to within three-quarters of an inch of its extremity. The index finger of one

hand is used to depress the root of the tongue (this must be done firmly, as the tonsil frequently swells most in a downward direction, causing dysphagia to a greater degree than if alone increased by swelling in the transverse diameter.) The instrument being then introduced, its edge directed upwards and inwards, one or more free incisions are made, commencing below, and carried in a curve convex outwards and upwards along the tonsil and velum, to the base of the uvula. The time occupied is not more than two or three seconds. The pain is inconsiderable, the relief always immediate, and in the majority of cases, permanent. The bleeding is encouraged by gently gargling the throat with any warm fluid. The depth of the incisions must of course be regulated by the amount of swelling and urgency of symptoms. It is, however, advisable, in every case, to divide the mucous membrane effectually, and even penetrate a short way into the substance it invests. The flow of blood I have generally found to be inconsiderable, when compared with the relief experienced. Whether ulceration be present or not, I have never hesitated, if the concurrent symptoms seemed to demand such interference, at once to cut through the ulcerated part if it lay in the line marked out by the eye for incision. Out of some dozens of cases treated by me in this manner, during the last twelve months, none have proceeded to the formation of matter. I can call to mind many which have been attended with superficial ulceration, previous to my being consulted, but none which ulcerated after incision was practised. I have observed that the viscid secretion poured out by the structures in question when in the state of inflammation, has been materially increased in quantity soon after the division of the congested membrane. The reason being obvious, need not be here mentioned. With regard to gargles, I have latterly discontinued their administration believing that any benefit derivable therefrom is extremely problematical; while, during their use, motion of parts which ought to be wholly at rest is unavoidable. The diet should be liquid, and taken at as long intervals as possible. On the medicines necessary for cure, *secundum artem*, I have nothing to say, save that it is to be borne in mind that deglutition is difficult and painful.

Mr. W., a moderately stout young man, of good general health, has had hypertrophy of both tonsils for some years past; the passage between is at all times exceedingly narrow; he is liable to frequent attacks of cynanche; dyspnoea and dysphagia at such times productive of great distress. On the 27th of April, I was called to attend him for

the first time. On examining the throat, the half arches of the palate were found to be all but filled up by the protuberance of either tonsil, the uvula and velum strongly injected, to the extent of three-fourths of an inch from the free margin of the latter. Headache, fever, great pain on attempting to swallow, sibilation; voice nasal; incisions followed by relief; bleeding and discharge of mucus considerable.

On my visit the following day, I found a marked improvement.

On September 22nd, a sister of the gentleman just mentioned was seized with the same malady; slight swelling of both tonsils, with an insignificant degree of inflammation about the margin of the velum; some feverishness; incision not permissible; nitrate of silver objected to; blisters politely declined, "as they might leave a mark" Gargles to be used frequently were prescribed with the usual appropriate medicines. The case remained nearly in statu quo from that date, up to October 7th, when it declined gradually.

July 28th, a stout, middle-aged man. The usual appearance of cynanche; ordered a brisk purgative and an astringent gargle; 29th, much worse; incision freely, in the usual manner; instant relief, and on calling next day, found no further occasion for attendance.

Mrs. C., twenty-seven years of age. Hysterical temperament; appearance delicate; general health indifferent. On November 10th, was seized with rigor, pain in the head, and soreness of left side of throat; some difficulty in swallowing; redness and swelling of tonsil and velum; incision practised in usual manner. Aperient medicine, and injunctions to avoid the act of deglutition more than might be absolutely required; 12th: Left side of throat presenting usual healthy appearance; disorder transferred to right side in aggravated form; incision proposed and objected to; apply six leeches. Seven p. m. worse; repeat leeches, and apply nitrate of silver in substance. At eleven the same night I was sent for to stop the bleeding from the leech-bites; found her faint and greatly exhausted from loss of blood; throat worse; deglutition now impossible; some dyspnoea; apply a blister. 13th: Throat worse; more difficulty in breathing; a fresh blister to be applied. 14th: No improvement; dress blister with ung. hydrarg. 15th: Better. Nov. 18th; To-day I have taken my leave of the case. The left tonsil is of its natural size and appearance. The right is still considerably enlarged, and will most likely remain so. All inflammation has now subsided.

I have selected the foregoing few cases from my note-book as they tend to show the results of different modes of treatment in the same disorder.

I have not the slightest doubt on my mind, but that prompt incision of the inflamed tissues will be attended with success in the vast majority of cases. As far as my experience goes, it has never failed of relief, and that almost directly. Without in the most remote degree wishing to derogate from the merit so justly due to Mr. Roberts, I must be excused if I express a small doubt as to whether cynanche, be it dubbed erratic, erythematic, tonsillar, or pharyngeal, would, in one out of a thousand cases, proceed to such a height as to require laryngotomy, were the parts primarily affected by the malady freely divided by the scalpel ere asphyxia left us no alternative.—*London Lancet*.

Nov. 18th, 1845.

ON

Constipation, from Indolence of the Bowels, and its Treatment.

DR. TEISSIER, assistant-physician to the Hotel Dieu, at Lyons, has published, in the last number of the *Journal de Medecine* of that town, an interesting article on the treatment of constipation from indolence of the bowels. This form is undoubtedly the one most frequently met with in practice. It is a frequent cause of ailments, which, when misunderstood, in the end seriously affect the health. The disease is very frequently met with among persons advanced in age, and among the hypochondriacal, in females, particularly those affected with chlorosis, or disease of the uterus; in individuals who do not take sufficient exercise, and in those who devote themselves especially to literature. It accompanies almost invariably all serious affections of the nervous system, and, above all, paralysis. Its consequences are, headache, indigestion, painful hæmorrhoidal, tumours, displacement of the uterus, sanguineous discharge from that organ, and leucorrhœa, in females, and in extreme cases may lead to marasmus. It is most important, then, to be able to recognize the sort of constipation of which we speak, and, above all, to know the most effectual means to remove it.

The directions given by most authors, for this last purpose, are in general of little use; sometimes they are even hurtful and dangerous. In fact, the means most frequently recommended are, oily enemata, or simple lavements of decoction of mallow, of bran, &c., at the temperature of, from 80° to 86° F.: and later, when these lavements fail to un-

load the bowels, manna, senna, tamarinds, rhubarb, castor oil, seidlitz water, scammony, in short, all sorts of laxatives, or even the most drastic purgatives, are recommended.

Now it is at present recognised as a fact among all practitioners of experience, that in the sort of constipation here treated of, the use of warm injections is hurtful, because, as it depends on a sort of atony, or indolence of the muscular fibres of the bowels, the more you inject warm water into them, the more the muscular fibres are lengthened, distended, softened, and deprived of their contractile power. It is known, also, that the use of purgatives, far from being beneficial in this sort of constipation, is, on the contrary, very prejudicial, inasmuch as they blunt the sensibility of the coats of the bowels, which at length become insensible to the stimulus of fecal bolus; besides this, their continued use may violently irritate the bowels. But this is not all, for, as Teissier remarks, the authors who most strongly advocate the use of purgatives in this disease, acknowledge also the inconvenience arising from the use of such substances in a great many cases.

Beyond these means, it might truly be said that no resource remains. But science is not so powerless as might at first be supposed: nay, numerous useful means exist, of which the three principal are, nux vomica, cold lavements, and astringents, which Dr. Teissier, on the recommendation of some authors, has employed in several cases, and with apparently happy effects.

Schmidtman was the first to recommend the use of nux vomica in cases of sluggish digestion, with flatulence, distention of the bowels, and constipation. Teissier cites four cases which show that this substance has been equally successful in his hands under like circumstances. In the first case, a female, the sluggishness of the bowels was caused by the existence of syphilitic excrescences at the anus, with thickening of the rectum in its whole circumference, which for more than a year caused great difficulty in defecation. After the venereal affection was cured, the constipation continued, and resisted all the means used to overcome it. Dr. Teissier having remarked that the introduction into the anus of tents (*meches*) for several successive days, and cold lavements, had in some degree relieved the constipation, was led to think that these means had only acted by rousing the contractile power of the large intestine, and that that end would be more fully obtained by administering the nux vomica. He accordingly gave his patient, every morning, in a pill, nearly the fifth of a grain (one centigramme) of the extract of

this substance. Under the use of the nux vomica, in this dose, for nearly a fortnight, the constipation entirely disappeared, and a year has now nearly passed away without any relapse. From time to time, merely, when the bowels are inclined to become sluggish, the patient takes one of the pills as above, and the next day the usual evacuation takes place. In the second case, the constipation, which was of long standing, was complicated with disorder of the stomach, referred to supposed gastritis. The patient was at first put on low diet, gum water, emollient injections, and the white meats, which only increased the sluggishness of the bowels. Recourse was then had to various other means, which relieved the gastric symptoms, without entirely curing them, but had no effect on the constipation. Dr. Teissier, seeing the little success attending this mode of treatment, had recourse to full diet, and the use of the extract of nux vomica, in the dose of the fifth of a grain, daily. In less than fifteen days the constipation and the other symptoms had almost entirely disappeared, and in less than a month, convalescence was complete. In the two other cases the result was the same. It must not, however, be supposed that the remedy is infallible; the Doctor admits that he has seen it fail in the case of nervous individuals suffering from obstinate constipation. He thinks it is particularly indicated in those cases where there is reason to suspect a general want of tone in the bowels, as in the paralytic, or in old persons, or where we may suspect a want of tone of the muscular coat of the intestine, in consequence of great and long-continued distention, or, in short, when the constipation can be referred to an undue secretion of gas, which, of itself, by causing distention of the bowels, diminishes their contractile power.

Injections of cold water, better known than nux vomica, constitute likewise a valuable resource against constipation from want of tone. Of late years they have been much vaunted; but, nevertheless, they are as yet but little used in practice. They act somewhat in the same way as the nux vomica in rousing the sensibility and the contractile power of the intestine. Our author does not, however, consider that two remedies ought to be used indiscriminately under the same circumstances; he thinks the cold injections particularly suitable to persons of a nervous, highly irritable temperament; to the hypochondriacal, and to females suffering from irritation or engorgement of the womb.

Females who have contracted the pernicious habit of taking a warm enema daily, and who have thus lost the power of evacu-

ating the bowels by the sole efforts of nature, ought to substitute cold for warm water; they would thus more easily attain the end they have in view, and avoid the inconvenience of diminishing more and more every day the contractile force of the muscular fibres of the bowels, and thereby increasing the degree of constipation. In general, cold injections are very harmless and very well borne; they produce, however, in some individuals, an uncomfortable sensation of cold in the bowels and loins, which may continue for an hour or two. Sometimes they produce pain in the bowels, and slight diarrhœa; in this case, all that is required is to discontinue them for a time, and to use them only every third or fourth day, instead of daily. In the case of patients in whom there is little reaction against cold, it is better not to prescribe water at the ordinary temperature at once, but to begin with it at the degree 68 Fahr., gradually coming down to 64°, 59°, and 53°, till, at length, water of the natural temperature may be used.

Astringent injections are also highly useful, under certain circumstances, in relieving constipation. Bretonneau was the first to establish this new and important fact, which has been again brought forward by Trousseau and Pidoux, in their "Treatise on Therapeutics," but without its having been as yet generally adopted in practice. One can readily imagine the reluctance some medical men have to recommend, in constipation, injections containing the substances they are in the habit of prescribing in diarrhœa—such as catechu, kramiria, alum, &c. But if we reflected, that in persons who have long suffered from constipation, particularly females, the rectum forms above the sphincter a pouch, sometimes of considerable size, in consequence of the distention from accumulated fœces, to which the coats of the bowels have been subjected, we should be less surprised that the idea has occurred to have recourse to the injection into the rectum of tonic and astringent substances, with the view of causing corrugation of the muscular fibres of the bowels, which, by corrugating, become shorter, and thus diminish the enlargement of the cul de sac now spoken of.

Astringent injections are particularly suitable in cases where there is reason to suspect an abnormal dilatation of the lower portion of the rectum; for instance, in constipation from the presence of a mechanical obstacle at the anus, caused by hæmorrhoidal tumours, swellings of a venereal or cancerous character, or contraction of the sphincter with or without fissure. These injections are, moreover, suitable, for the same reason, to females in whom constipation exists, along

with engorgement or retroversion of the uterus, and to all those persons who, having their bowels relieved only once in eight or ten days, void, after painful efforts, which can be compared to nothing but a sort of parturition, an enormous mass of hardened and dry fœces. In all these cases, it is of consequence to rouse the tonic action of the muscular bands of the large intestine, and this indication is well fulfilled by astringent injections.

The ingredients of these injections may be infinitely varied; they may be composed of red roses, krameria, oak bark, bistorta, catechu, alum, &c. The following is Teseir's mode of proceeding:—He begins with the simple infusion of roses, cold, and at the end of a few days, he adds to each injection from fifteen to thirty grains of the extract of ratanhy. He thinks that in obstinate cases a minute portion of the extract of nux vomica—one-seventh or two-sevenths of a grain, for instance—might be added, with advantage, to each enema. He considers, also, that they measure ten or twelve ounces, so that they may not be retained many minutes; that their action may be of short duration, and that the muscular fibres of the bowels may be allowed readily to contract themselves. The nux vomica, the cold, and the astringent injections, are not certainly the only means at the disposal of the practitioner in the constipation we are now treating of; but they are those of which our author has had most experience, and from which he has derived most success. We must not forget here the means proposed lately by Fleury—viz., the introduction of tents into the rectum, which acting as a foreign body, stimulate the bowel by their contact, and rouse its contractile power; nor the shampooing of the rectum, proposed by Recamier; nor, lastly, inspissated ox-gall.

To all these means must be added, as auxiliaries, drinks composed of vegetable bitters, a tonic diet, the use of black meats, Bordeaux wine, active exercise in the open air, &c. These are useful auxiliaries, much more beneficial certainly than the use of white meats, (veal and chicken,) relaxing vegetables, such as sorrel, spinach, chicory, cooling lemonades, juice of prunes, bouillon aux herbes, &c.

Boulogne, Nov. 15th, 1845.

His Majesty the King of Prussia, by a Cabinet order of the 16th September, has been pleased to order the establishment at Berlin, of a homœopathic hospital at the expense of the government.—*Allgemeine Homœopathische Zeitung.*

On the Pathology and Therapeutics of Asthma.
BY M. GENDRIN.

The following valuable clinical remarks, by M. Gendrin, on the nature and rational treatment of asthma, which we extract from the medical section of the *Epoque*, are deserving of attention. They are a good specimen of the high power of generalization, and of the extended views of the La Pitie physician. M. Gendrin's pathological and therapeutical opinions offer a strong contrast to the narrow, limited, local doctrines of the Broussarian school, of which he has always shown himself an enlightened and able antagonist. We are happy to say, that a return to a sound, comprehensive, generalization of the causes, and phenomena, and therapeutic indications of disease, of which we now give an example, is daily becoming more apparent among French pathologists.

The patient lying at No. 8, of the St. Anne's Ward, will enable me to say a few words to you respecting asthma—a disease, the immediate cause of which modern pathologists are endeavoring to find in an organic affection of the lungs. We must first, however, rapidly examine the history of this poor woman. She is thirty-five years of age, and being a washer woman, is daily exposed to the influence of atmospheric variations, and to that of the cold and moist air of the river, where she washes in a boat. She was first attacked with asthma three years ago, and since then has had a fresh attack every third or fourth month. Each accession has lasted one, two, or three weeks, and on disappearing has left behind a certain amount of dyspnoea, which gradually diminishes. She is now under the influence of one of her attacks. Her respiration is slow, short, accelerated; inspiration requires great efforts, the simultaneous action of all the inspirator muscles; expiration is frequent, and accompanied by a sibilant sound, which is heard at the bedside of the patient. She can only breathe when sitting up. Her features express deep anxiety. The state of dyspnoea is not quite continuous; it is aggravated by paroxysms, especially at night. At intervals she is seized with fits of coughing, during which she brings up a quantity of glairy mucous, transparent, and mixed with air. Often in the midst of the coughing, vomiting comes on, and the excretion of the mucous from the bronchi appears to be thereby facilitated. The state of agony in which this woman then appears to be, and the semi-convulsive agitation which induces her rapidly to raise herself upright, in order to favor respiration, give a very good idea of the sufferings of asthmatic patients. The entire organization is disturbed; the pulse is frequent; the

systoles of the heart are energetic, the jugular veins distended, and the skin of the face and neck covered with perspiration.

On examining the chest, its form is found modified; it is ovoid at the base, on both sides, in front and behind; the parietes of the chest are prominent, vaulted as it were, and percussion is attended with an abnormal degree of sound; it seems as if a bladder distended with air were struck; the sound of the expansion of the pulmonary vesicles is no longer heard on auscultating; a sibilous sound, here and there humid, coincides with the expiration. This sibilance may be appreciated by the hand, which, on being placed over the chest, feels a trembling crepitation, isochronous with the motions of expiration. The heart, the large arteries, and the abdominal organs, show no indications of disease. Such is asthma in its paroxysms. An analysis of the phenomena shows the presence in the bronchi of a mucous fluid, which obstructs them, and which the efforts of coughing are destined to expel. The excessive dyspnoea of the patient is the result of the occlusion of the air-tubes by the products of secretion, and also of the emphysematous condition of the air-cells of the lungs, as indicated by the tympanitic condition of the thorax.

Such are the symptoms which have induced some pathologists to consider asthma as bronchitis, accompanied by an unusual secretion of mucous; others, as emphysema of the lungs; and others, as a disease attributable to spasmodic motions of the expiratory and inspiratory muscles; as if such spasms could explain the unusual secretion of mucous, and the stagnation of air in the cells of the lungs. To consider asthma only in the phenomena of its attacks, is only to see a part of the disease, one of its periods. Such a doctrine can only, at the most, lead to the cure of asthmatic attacks. The fit of asthma is only a part of the disease. If we consider it alone, we lose sight of the cause which reproduces the attack for years, during a part of the life of some persons. In order to understand the disease, the attacks must be reduced to what they really are—that is, phenomena of a morbid state which persists in the organization continuously for a longer or shorter time, and which announces its presence, at intervals, by attacks of dyspnoea, of which the abnormal secretion of mucous is the first symptom. If we take this view of the subject, it becomes easy to understand the appearance of asthma as the result, in one, of gouty cachexia; in another of the herpetic diathesis; in a third, of a metastatic disease, owing to the suppression of chronic suppuration, &c. We can com-

prehend also asthma being transmitted hereditarily, or being the result of erroneous irregular regimen or habits. Lastly, this mode of viewing the etiology of asthma gives valuable indications for treatment, which is the most important. If asthma resists nearly always the curative methods adopted, it is because these methods are only directed to the cure of the attacks, and are not deduced from the nature of the disease. It is not, certainly, an easy thing to establish a system of medication drawn from the study of the entire economy, and from the rational appreciation of the causes which produce the disease; and this, perhaps, explains why cures are so rare. But when medicine is considered in a philosophical point of view, when we cease to search, along with the empirics, for a remedy the nature of which is not known, for a disease the nature of which is still less known, then it becomes indispensable to look for the rules of treatment in the nature of the disease, and not in the lesions to which it gives rise, and which after all, are only its phenomena.

You must not, however, think that I wish to draw your attention from the consideration of the local phenomena of diseases, and that I do not attach importance to their study. It would be a serious omission to neglect the local lesions, and not to take into consideration local phenomena, as it would prevent our appreciating exactly all the elements of the morbid state.

I have prescribed an emetic to the patient whose case is before us. It will, in all probability, modify the bronchial secretion, and favor the expulsion of the excreted products which clog the aerial tubes. I expect, also, that through the spasmodic expiratory movements which it will occasion, it will empty the emphysematous air-cells of the lungs. If this fortunate result is obtained, (as clinical experience tells us will probably be the case,) you will see the dyspnea cease, as likewise the chronic asthmatic excretions. One day will perhaps suffice to bring the patient to the end of the attack which has occasioned her to enter the hospital.

If we do not cure the attack so rapidly, we shall at least obtain a diminution in the symptoms, which will lead to their disappearance, in the course of two or three days, under the influence of a slight sedative medication, or under that of a renewal of the emetic.

Supposing this result obtained, in what state will the patient be after the attack has been cured? If the repetition of the attacks of asthma has given rise to true emphysema

of the lungs, with rupture of air-cells, there will remain a certain degree of shortness of breath, and the physical symptoms of emphysema. But these symptoms will be much less marked and less extensive; there will be no orthopnea, properly speaking, no fits of coughing, and but a very slight mucous expectoration. If, however, the lungs are not injured in their texture—as we may hope is the case with our patient, who is still young and of a vigorous constitution—the respiratory functions will become completely re-established. You will no longer hear, on auscultating, the sibilant rhonchus produced in the bronchial tubes by the mucus which fills them; you will no longer find, on percussion, the tympanitic sound to which the air that dilates and obstructs the vesicles of the lungs give rise; and you will hear the vesicular expansion murmur at the basis of the thorax, where you now look in vain for it.

The prognosis thus laid down will enable you at once to understand the very different states in which asthmatic persons are in the interval of their attacks. If the patient is still young, of a good constitution, and has only had a small number of paroxysms; you will not perceive, in the thoracic organs, the slightest trace of organic lesions or of functional disturbance in the interval of the attacks; the repletion of the bronchial tubes by viscid mucus, the emphysema which is observed during the attacks, all will have disappeared with the dyspnea—the cough, the sibilant rhonchus, the tympanitic sonority and the bulging of the thorax. The patient is not, however, cured, for the attacks will return sooner or later. Allow these attacks to be frequently repeated, and then examine the same patient in the interval of his paroxysms; you will find his respiration short, frequent, and disturbed by a dry cough, whilst the physical signs of more or less extensive emphysema are present. The repetition of the attacks has given rise to permanent organic lesion of the lungs, and to a functional disturbance of the respiration, which becomes exasperated in the attacks, and persists, during their interval, with a gradually increasing intensity. During the first period of the disease, the asthma existed without pulmonary lesions, only reproducing the lesions during the paroxysms, and as phenomena depending on their manifestation. In the second period, the asthma is not represented by the organic and functional lesions of the lungs. It merely exasperates and aggravates them; and the paroxysmatic affection is complicated with organic lesions and functional disturbance, to which it, the permanent disease, has progressively given rise.

REVIEWS.

Animal Chemistry, or Organic Chemistry in its application to Physiology and Pathology. By JUSTUS LIEBIG, M. D.,

&c. London; Taylor and

Waston, 1842, pp. 345.

(Continued from p. 56.)

The starting point of our author, in the consideration of this subject, is the enunciation of the existence, in the living body, of a distinct force—the vital,—which is stated to be the cause of growth in the mass—of resistance to external agencies—as a cause of motion and of change;—an exciter of decomposition—a changer of the direction of chemical forces—a destroyer of the mechanical force of cohesion—as an attractive force; and that its existence, is an unequal intensity in parts, comprehends not only an unequal capacity for growth in the mass, but an unequal power of overcoming chemical resistance. This is in direct opposition to what he has stated in the previous part of his work; but as medical men, in this country, seem but too prone to recognise in Liebig a great physiological authority, it may be as well that we inquire into the truth of what he here so dogmatically asserts. “The manifestations of a vital force,” says he, “are dependent on a certain form of the tissue in which it resides, as well as on a fixed composition in the substance of the living tissue.” If the manifestations are, of course the force is likewise dependent, for it is by the manifestations alone that we can become cognizant of the existence of such a force; and if dependent, how is it at one time a cause, at another time an effect? Nothing, surely, can be more absurd than pompously to announce the existence of a thing, and then immediately to state that it is inadequate for the purpose it is assumed to fulfil. “In inorganic nature, do we require to assume the existence of distinct entities to explain the phenomena of attraction, combustion, &c.? We know not how or why a certain aggregation of matter called phosphorus should be capable, when exposed to certain agents under favorable circumstances, of exhibiting the phenomenon of combustion; or why a certain other aggregation of matter, called ivory, should be capable, when struck by a hard substance, of displaying those of sensible motion. But we know that they do so; and we satisfy ourselves, in these instances, with stating that the phosphorus is *qua* phosphorus, combustible, and the ivory, *qua* ivory, elastic, without ascribing to them any substantial principle of combustion or of sensible motion. In like manner we know not how or why a certain aggregation of matter, called organized, should be capable, when

acted on by certain appropriate powers, of manifesting the phenomena of life. But we know that it does so—that the more perfect the organism is, the more remarkable are these phenomena—and that any change in the former produces a corresponding change in the latter; and what other proof can we require, or possess, that organized matter is, *qua* organized, endowed with vitality, and that it is not upon any substantial principle of life that these phenomena depend?”* It gives us pleasure to notice, in the recent work of Mulder on Organic Chemistry, that he has, with much acuteness, although in a form of argument formerly used by Thomson, exposed the fallacy of the vital principle school,—one in which Liebig aspires to be a leader, although he appears to be ignorant of the real force or meaning of the words he employs. “No idea (that of a vital force) can be less distinct than this. The existence of such a force in the fully formed organism is assumed as governing the whole. Respiration, the circulation of the blood, the functions of the nerves, &c., are effected by one force, which is called Vital Force. This vital force causes respiration here, digestion there, the secretion of the saliva and of the pancreatic juice in other parts of the body. It maintains at once the substance of the bones—of the muscles—of the brain. It is supposed that this same force is modified, with reference to the different organs which it influences. What would remain of the primary idea of force, if we saw force—here causing motion, there effecting a chemical alteration—elsewhere producing feelings or sensations? It seems to me that, in its ordinary signification, the term vital force expresses an idea as incorrect as if we supposed that one simple force, differently modified, operated in a battle fought by thousands—a force that acted so as to fire cannon and muskets, cut with swords, transfix with bayonets, sound trumpets, and keep men and horses in constant agitation, &c. The army appears as a substantial whole, and produces phenomena. The organism, composed of the most different parts, also appears as a substantial whole, and produces phenomena. If we assume for the latter a single force, differently modified as the organs vary—a single vital force by which the whole is animated, then, to be consistent, we should assume the existence of a fighting force in a battle.”

A careful perusal of this chapter will enable the reader to see that Liebig, however excellent he may be in the practice of chemistry, loses himself in a sea of contradic-

* Fletcher's Rudiments of Physiology, p. 30

tions; and that the ideas he possesses of all forces are exceedingly unlike those, which we should have expected in one enjoying such a reputation as he does for philosophical argument.

It might be as well that we should here inquire what is the true meaning of force.

"When we speak of attraction and repulsion," says John Fletcher, "we, indeed, seem to be speaking of simple forces producing certain actions: but we are, in fact, speaking of the actions themselves, those of attracting and of repelling, the forces being, in both cases, quite distinct from these actions, and consisting of a property of being attracted or repelled, on the one hand, and a power of attracting or repelling, on the other." And again, here is Mulder's explanation of the term force. "In the natural sciences, force is assumed to signify an assumed cause of observed phenomena; we do not, therefore, observe forces, but suggest their existence to ourselves; and we do so in conformity with sound principle, for the phenomena constrain us to believe that such forces exist. No cautious inquirer into nature goes farther than this in the present day. We do not introduce forces to which we assign properties, but we form the idea of some particular force, after the necessity for its existence has been demonstrated by the observation of natural phenomena. The idea of force is, therefore, a concrete one, by which every specialty in the phenomena is embraced, and unity is given to the whole." Here then, we think we have a proper definition of the term force; which is in strong contradiction to the illogical application of it made by Liebig, who assigns to his vital force a series of properties, with which, if it is endowed, it becomes a distinct entity. Philosophically speaking, we might, with as much propriety, assign to the force of gravitation a series of properties, consisting of all the modes of being which gravitant matter assumes.

So far as we have gone, we find that Liebig has employed the term in a twofold sense,—first, in his "vital force," which is expressive of a distinct entity; secondly, as a property distinctive of an organized tissue; but what can be thought of the clearness of our author's views when he adds a third application of the term, and from his statements we are left to infer that it is only a mode of the being of matter. "The amount of motion," says he, "is the momentum of force."

Liebig has, however, furnished us with as excellent an illustration of our views as we could have desired. It is as follows: "As the manifestations of chemical forces (the

momentum of force in a chemical compound) seem to depend on a certain order in which the elementary particles are united together, so experience shews us that the vital phenomena are inseparable from matter; that the manifest actions of the vital force in a living part are determined by a certain form of that part, and by a certain arrangement of its elementary particles. If we destroy the form, or alter the composition of the organ, all manifestations of vitality disappear." It is not long, however, before our author contradicts himself, as the following sentence will shew: "It is obvious that a certain amount of vital force must be expended to retain the elements of the complex azotized principles in the form, order, and structure, which belongs to them;" although, as the former sentence announces, this "form, order, and structure," is the cause of the vital force. The effect is thus made, illogically enough, to have some share in the production of the cause.

His explanations, if such they can be called, although evidently by him intended to be so, of certain inexplicable phenomena, are, to say the least of them, very unsatisfactory. We are told, for instance, that the cause of the decadence of plants, and of the limitation to the duration of life in plants and animals, depends on this, that, after the establishment of an equilibrium betwixt the vital and chemical forces, a further increase of the latter takes place, which, continuing to increase, finally destroys the other. Such a statement brings us not one whit nearer to the knowledge of how this is caused, or how this assumed equilibrium is disturbed. Science has gained nothing by the communication of the dogma; and if it had been stated that all we know of the matter can only be expressed by saying it is an ultimate fact that plants, &c., die, it would have been a less pretending, but not less intelligible statement.

We shall now proceed to a consideration of the theory brought forward by our author on the cause of motion in animal bodies.

For the purpose of illustrating his subject and bringing us step by step to a comprehension of the views he entertains on it, he proceeds to trace the forces exhibited by chemical action in the galvanic pile, which are, according to him, transferred to a distance, and transformed into a new force, the mechanical in producing motion. Now, we are not at all convinced, however pleasing and simple it may appear to be, that any such thing as transference of chemical force takes place here; and we would, so far as we know of a subject, which, for the present, must remain in profound obscurity, rather

adopt a view more material, and look upon the electrical currents proceeding along a wire, as a proof of the elimination during chemical action of something really existing. For, did we not prefer this view of the subject, we should be apt, like our author, in tracing the analogy between the galvanic current and the vital agent, to fall into the error which he evidently embraces, when he inferentially states that the vital force, if not identical, is closely allied to electricity in its nature; and the way this conclusion is arrived at, is simple enough. He sees galvanic phenomena resulting from the decomposition of water by zinc, an absorption of oxygen, and a power produced in the direct ratio of the oxygen consumed, and capable of transmission to any distance. In the human body, again, he finds that oxygen is consumed, that tissues become effete and are thrown off, and that power appears to be produced in proportion to the oxygen absorbed. "Muscular substance is oxidated, as the zinc, in the part, force is generated, which is distributed by the nerves to different parts; when it is in excess in one organ, it is conveyed to other parts where deficient." From this decided relation between the change of matter in the animal body, and the force consumed in mechanical motion, no other conclusion can be drawn but this, that the active or available vital force in certain living parts is the cause of the mechanical phenomena in the animal organism." Now, we admit the facts, that all living action must consist, like ordinary chemical processes, in a series of actions and re-actions, which we only become cognizant of by witnessing them; but, for Liebig to imagine that he has simplified the matter, or thrown any new light on it, by assuming that the force of motion, or motion occurring in chemical changes, is transferred or transformed, on the one hand, into electrical phenomena, or, on the other, into mechanical, or in the third place, into vital phenomena, we feel constrained to deny. The very term, transference of force is unsound. It is only that which is substantial, as Mulder remarks, that can be communicated.

And in truth, all that we know of the matter, or are likely to know, is this, that the living body is composed of various tissues, in other words, vital compounds, each endowed with its own special properties, capable of being acted on by other compounds, and again re-acting on them,—of giving rise to phenomena—to actions (in which, truly speaking, consists life,) that these properties as in the case of the action of an acid on an alkali, are exhausted; that for the purpose of being renewed, and the actions again re-

peated, they require the deposition of fresh nutriment, otherwise life, which, as we have just stated, consists but of these actions must cease. And it may be summed up in this, that of the nature of these vital forces we know nothing; but this we certainly do know, that they are neither the electrical nor the chemical, because the phenomena they present are not those of either of the latter. But when we, as physiologists, admit that of them we know nothing, we are not a whit more in ignorance, than is the chemist or mechanical philosopher, of the nature of the properties which characterize inorganic matter. A few pithy remarks follow up the chapter on animal motion, and these are entitled *Theory of Disease*. This subject is very summarily disposed of by our author, who states, that disease occurs when the sum of the vital force is weaker than the acting cause of disturbance. Every cause is then assumed to be mechanical or chemical, and acting as such, by producing a disturbance in the proportion of waste and supply. A deficiency of resistance, we are then told, means, that the oxygen of the atmosphere acts more energetically on the living tissue, and of course more motion than normal is produced. The superabundant force is then conducted away by the nerves, and an acceleration of the involuntary motions, with an increase of temperature, takes place. This constitutes a febrile paroxysm, nothing can be simpler; and the proximate cause of fever, which has puzzled the brains of physicians from Hippocrates downwards, is clearly shewn forth to be nothing more than a quicker burning of the lamp of life. The remedies would seem, however, to be, to a certain extent, homœopathic; for a cure, it is stated is effected by the action of blisters, sinapisms, &c., which act by creating a more intense disturbance or combustion of tissue in a previously unaffected part than exists in the diseased one. When, however, the lighting of a neighboring fire does not extinguish the other, the physician we are told, acts with wonderful sagacity indirectly, when he diminishes, by his bloodletting, the oxygen carriers, when, of course, the fire goes out of itself. Pity that the doctrine is not followed out by the admirers of Liebig, and a practical exhibition made of the excellence of the discovery.—Formerly, the inhalation of dephlogisticated air, or of nitrous oxide, was viewed by the enthusiast of half a century ago as a panacea for all the ills that flesh is heir to; but as the world grows older, we grow wiser, and the proper course now would appear to be the very opposite; and there can now be no difficulty in smothering the fever, by ma-

king the patient inhale hydrogen gas, provided it should not smother himself. It is scarcely possible to read this chapter without a feeling of wonder at our author's style of cool assumption. No difficulty occurs to him,—no exceptions to his generalizations ever appear to have entered his mind, but he goes on ploddingly with the most unmatchable gravity, dealing forth his formulæ of disease with all the precision of an algebraist. For instance, sympathy is defined to be the transference of diminished resistance to more distant parts, a mode of expression too palpably absurd to require any comment.

The chapter on respiration is interesting in a chemical point of view, but presents nothing worthy of special notice in a physiological sense, as it is a subject still sub judice. But even chemically, the whole doctrine is open to many objections; and the assertion, that the iron in the globules is the main oxygen carrier, is doubted both by Simon and Mulder, who believe it to be in the metallic state; and that the color of the blood depends on the degree of oxidation is certainly not true, as the coloring matter has been obtained by Simon perfectly free from iron. The inference drawn then by Liebig, of the cause of the frightful effects of prussic acid and sulphuretted-hydrogen, by their ready action on the compounds of iron, when alkalies are present, must fall to the ground.

We have devoted the utmost care to a perusal of this work, and we rise from it with the conviction that Liebig, so far as he states facts connected with nutrition of tissues, amount of food necessary for production of motion, &c., may be chemically correct; but that, departing from his weights and his balance, he aspires to be a philosophical physiologist, and, to explain causes of which he is necessarily ignorant, that he departs not only from his legitimate sphere, which he is so well qualified to occupy, but, from ignorance of what others have done and written before him, he entangles himself in a maze of contradictions, and confuses, by constantly shifting his principles, those who may seek information from his work; and here we are sorry to say, that the difficulty of dealing fairly with him arises less from the nature of the subject, than from the illogical and heterogeneous ideas he seems to entertain, at one time appearing as truisms, clothed in the technical language of the laboratory, at another, in the use of words which, however special they may be in the vocabulary of those who have previously studied physiology, are by him used frequently in a sense which may mean everything or nothing.

In our next we shall devote a few pages to the consideration of the relation which organic chemistry in general bears to physiology, and more especially to Homeopathy.

British Jour. Hom.

PEOUILIAR CASES IN MIDWIFERY.

By Thomas Torrance, Esq, Surgeon Andre.

In a late *Lancet*, I observed a case of expulsion of the entire ovum, at the full period of gestation. The two following cases have occurred in my practice, a record of them in the same journal may prove interesting to the profession.

CASE 1.—I was called, about mid-day of the 22nd May, 1837, to a Mrs. T.—, aged twenty years, wife of a mechanic, in labour for the first time, of a slender make, but having a large capacious pelvis. After an easy labour, she was delivered, about 7 o'clock, P. M., of a full sized, well formed, male child. Having tied the umbilical cord, and handed over the child to the nurse, I turned my attention to the mother. Upon placing my hand over the uterine region, and making gentle traction with the cord, she gave a groan, and by one expulsive effort a second child was born, enveloped in the membranes together with both placenta attached. I lost no time in separating the membranes, and exposed the child, also a male, but much smaller than the former, and which survived only a few days. I have been in attendance several times upon the mother at subsequent confinements, but have seldom been forward in time, her labor being too expeditious.

CASE 2.—Mrs. W.—, the wife of a farmer, and the mother of several children, was taken in labor during the night, in the month of August, 1839: I was called about seven in the morning, and, upon my arrival, found the nurse with one child, a male, upon her knee, which had been born about fifteen minutes. Upon my going to the mother, who was in bed, I was told by her that *all* had come away, but had not been removed. Upon introducing my hand under the bed-clothes, I found something unusually bulky which, upon examination, turned out to be a second child, enclosed in the membranes together with both the placenta attached. I need scarcely add, that this second child, which was a female, was dead.

Expulsion of the second child, enveloped in the membranes with the placenta, in twin cases, I believe is not at all a rare occurrence at the full period of gestation, at which time, however, I have never met with it in cases of single births, though frequently in cases at the seventh month, particularly when the child was dead.

Lancet.

HOMŒOPATHY

May be considered a heresy in medicine, between whose votaries and the orthodox school a warfare, as bitter as it is *ungentlemanly*, has hitherto been waged. Because its enemies do not tell the truth about it, and because every thing vitally concerning human life and health is matter of deep moment to all; the writer proposes to state briefly and correctly what the claims of homœopathy are, to the favourable notice of the public. In doing this he feels that his position is much like that of Galileo, when advocating the Copernican theory of the world. He is broaching doctrines which, though true, are unfortunately calculated to strike the common sense of mankind, as being *utterly absurd*. The idea that the sun was fixed, and the earth moved, was so directly opposed to every man's senses and experience, that it was *then* unanimously rejected, though it has since come to receive the universal assent. So it is with homœopathy; those who look beneath the surface of things, and have sufficient industry and ability to investigate and comprehend its great truths, *know* that its doctrines, though now rejected by the unreflecting multitude, are destined, ultimately, to be universally received, and to confer inestimable benefits on the human race. "Truth, though crushed to earth, will rise again." Unfortunately, too, for homœopathy, as with almost every other new discovery, its worst enemies are its inexperienced and incompetent advocates and practitioners. Its great lights cannot now, however, be extinguished by all these difficulties and embarrassments, but *must* ultimately work an entire revolution in the principles and practice of medicine.

1st. Homœopathy claims to have discovered the true principles on which medicines should be given, and to have first established their true curative powers in all diseases, by the *Baconian method of induction*. (Thanks once more to the great lord Verulum.) By experimenting with all medicines upon the healthy, their true curative powers on the sick are spread out to view, as it were, in a solar microscope, their minutest effect on every portion of the human organism being shadowed forth in clear magnified perspective. The great law, discovered and promulgated by Hahneman, "*Similia Similibus curantur*," is as true as the Copernican system of the world, and, like that system, with gravitation added by Newton, it is destined to bring *order out of chaos*, in the science of medicine. The chaotic darkness, uncertainty, and never-ending fluctuation, pervading, till then, *all medical science*, has given place to a beautiful *order*, infallible

while the world stands. It has operated in the medical world little less than the omnipotent fiat, "let there be light," once did in the natural world. This discovery of the great Hahneman is fully equal to the discoveries of Copernicus and Newton, and is destined to carry his name down to posterity, as one of the greatest luminaries of science, no less than the benefactor of his race; whilst the petty sneers of those whose minds are either too contemptible to comprehend his discoveries, or too dishonest to give him credit for them, will be buried in deserved oblivion.

The second discovery of Hahneman, scarcely less in importance than the first, is, that all medicines given in infinitesimal doses, are more prompt and powerful in their remedial effects, than when exhibited in sensible quantities; and, indeed, that they never do produce their legitimate curative effects upon the constitution, except when they are thus diluted, and *by a process which charges them at the same time with human electro-magnetism*. When they are attenuated in this manner, so as to become what we may term, a "*subtle medicated magnetism*," and are dissolved upon the tongue, they at once incorporate with the *nervous fluid of the system*, and *produce their effect directly on the vital powers of life*, removing their morbid condition. That this discovery is another great truth, is as certain as the Newtonian theory of gravitation. *It is one of the eternal principles of nature*, connected with human life, as fixed as the revolutions of the planets. Those who have any concern with healing the sick, and do not *know* these two great principles to be true, are blameably ignorant of what in this day they might know.

When these great principles are scientifically carried out in their application to the treatment of diseases, their beneficial effects on the health and longevity of the human race, will be a very *high per centage above* what the practice of medicine now exhibits. That homœopathy is, to-day, altogether superior to Allopathy in the treatment of small pox, scarlet fever, measles, croup, cholera, typhus fever, ophthalmia, and skin diseases, even in the hands of the most bungling practitioner, are *facts* that the *community generally have a right to know*. That it is superior in the treatment of all diseases, acute as well as chronic, in the hands of a skilful practitioner, no good homœopathist, well versed in both systems, can doubt. That those pretended homœopathists who are too indolent to investigate diseases and idiosyncrasies thoroughly, and who use the low dilutions on all occasions, because they are too

lazy to prepare the higher, do not always succeed, is very true. But it is sinning against the good gifts of heaven and the light of eternity, to charge these failures to homœopathy, instead of charging them to the culpable negligence and indolence of those who pretend to practise what they do not. No one who does not legitimately carry out the doctrines and discoveries of homœopathy, should be permitted to dishonor it by assuming the name. The stupid and senseless blundering of blockheads, in the name of homœopathy, ought not to prejudice sensible people against the great truths of the science. These truths are fixed and eternal, and will remain so long after they are forgotten.

A word as to the different effects of medicines in a crude state, and when prepared homœopathically. Mercury and sarsaparilla, for instance, medicines that occupy a prominent place in Allopathy, meet but few indications in homœopathy, and those far from being important. The indications of medicines in the two systems, indeed, are very generally different, and, in many cases, diametrically opposite. Homœopathy has a list of thirty alterative medicines, a large proportion of which are more powerful than mercury. A curious fact developed by homœopathy is, that those substances composing the great proportion of the mass of our earth, are found to be the greatest medicines for chronic diseases generally. Such are silex, carbonate of lime, carbon, sulphur, sulphate of lime, &c.; these, together with graphites and common salt, are, in their crude state, almost inert, but when attenuated and magnetized homœopathically, they are made some of the most powerful medicines we have.

Homœopathy has been charged with being inefficient in the treatment of intermittent fevers. The writer has not found it so in upwards of thirty cases which he has attended the present year. It is true that great labor is required in discriminating symptoms, and in discovering previous Allopathic treatment in cases of relapse, but this carefully done, and homœopathy is bound to triumph in the treatment of this scourge of the Western country. The easy and safe manner in which fever and ague can be gradually but permanently dislodged, by homœopathy, from the system, leaving it sound and uninjured, are such as to be highly satisfactory to its friends.

In conclusion, homœopathy says to suffering humanity,—“Cease ruining yourselves with drugs. Do not injure your constitutions, and shorten your days, any longer,

with heroic medication. Emetics, cathartics, calomel, quinine, and bloodletting, are now unnecessary. We have discovered an easier, safer, and better method of curing all the diseases that can possibly afflict mankind. Our medicines never weaken or injure the most delicate, while they are more powerful in arresting disease, than the strongest doses that can be given.” These assertions are not put forth in the spirit of a quack advertisement, to deceive you, and get your money without any consideration, but to do you good. We come, like the good Samaritan, with oil and wine for your wounds.—*St. Louis Magnet.*

On the Use of Sabina in Uterine Hæmorrhage.

By DR. ARAN,

Of the Hotel Dieu.

This neglected medicine has been lately much recommended by Dr. Aran, who published the following cases:—The first was that of a woman of bilious-sanguine temperament, and strong constitution, who was attacked with hæmorrhage in consequence of a fatiguing journey on foot. Besides feverish symptoms, she had dragging pain in the hypogastrium; the hæmorrhage was not violent, but long continued. Cold applications to the abdomen, the horizontal posture, and blood-letting, (!) diminished the discharge slightly, but it returned in the evening, when 1 gramme and 25 centigrammes of Pulv. Sabin. were administered, which effected a complete cure. Another woman, who had been quite regular in regard to menstruation, was attacked with violent uterine hæmorrhage at the time when the menses ought to have ceased. She neglected it; and when she applied for aid, a very copious discharge had continued for a fortnight. She got a bolus of Pulv. Sabin. After the patient had taken eight doses, with an interval of two hours between each dose, the discharge had subsided.—[*Gazette Med. de Paris*, 1844. N. 17.] Since the time of Galen, Sabina has been a celebrated *enamenagogue*. Mohrenheim relates, that a woman who wished to abort, took an infusion of Sabina. After some day's severe pain, abortion, with violent uterine hæmorrhage, followed by death, ensued, (*Versuche*, vol. ii., p. 245.) Home found, that, when taken to the extent of half a drachm, it increased the menstrual discharge, (*Clinical Expt.*, p. 419) (Wibmer, vol. iii., p. 191.)

Cantharides in Eczema and Psoriasis,

By DR. SICK.

Dr. Sick reports four cases of Eczema, and two of Psoriasis, in which the tincture of cantharides proved most beneficial. The first of the patients, a sailor, had suffered from Psoriasis, which affected chiefly the thigh, for above a year, and had tried various remedies in the different sea-ports he touched at. The second, a tailor, had suffered for four years with the disease upon his face and limbs. The disease was half a year's standing in the other two. The tincture of cantharides was ordered, beginning with three drops for a dose, and increasing by a drop daily. The disease was immediately arrested, and disappeared in all the three cases within seven weeks. Of the patients affected with Psoriasis, the first was a young girl, who had suffered with it for three years to such an extent that there was scarcely any part of the skin not covered by the eruption. After using the tincture of cantharides for three weeks, the skin was perfectly sound. In the case of the other two, who were twenty-three years old, the eruption was attended with intolerable itching and profuse sweat, that broke out even when they were at perfect rest. After taking the tincture of cantharides a few days, they were better, and in the course of some months they were perfectly cured.—*Archiv des Koniglichen dan. Gesundheit's Colleg. und Oester. Med. Wochenschrift.*—1844.—No. 25.

(For the Dissector.)

TRACTS ON CONSUMPTION.

NUMBER TWO.

On some New Pathological Views of Tubercular Consumption.

(Concluded.)

By J—— G——, M. D.

The muscles possess the property of contractility in a more eminent degree than any other animal tissue, and are generally adduced as affording evidences that vital action consists of this single power. But while the phenomenon of muscular motion presents appearances that seem to have no analogy with any mere physical process, and has hitherto been found altogether too recondite for human research, there are many of its effects that can be explained only on the supposition of an expanding force. Careful ob-

servation shews, contrary to the opinions of writers on the subject, that in the motions of the muscles for flexion and extension they undergo no diminution of tension—the form of the muscles are changed, the tension is altered with the force exerted, but the feeling of hardness or softness remains the same for the same degree of exertion—a condition that could scarcely exist if one of the motions depended on simple relaxation. If muscular action were the result of one force, we ought to perceive in the act of extending the fore arm, for instance, besides a softness of the biceps flexors, a corrugation of its fibres, in order to dispose of the instant tendency of the muscle to increase its length upon the cessation of the contractile force. Certainly no such changes take place. Again, in the experiments made to determine whether the bulk of muscles are augmented or diminished by their action, no change has been observed. This could not be the case if one set of muscles were contracted and, it must follow, condensed, while the other remained simply passive; and it must demonstrably be the result if the one is expanded as the other contracts. Researches into the relations existing between the primary physical forces and vital action, show that galvanism is capable of exciting a muscle to its apparently ordinary actions; but to do this the muscle must not be detached from its congener. The opinion that expansibility or repulsion is a vital property of muscles, is not wholly new to physiologists. Brehat regarded the change that a muscle undergoes from a state of contraction to extension as in part an active force, or at least something more than the mere cessation of contraction; and Barthez maintains the very probable opinion that the relaxation is produced by a nervous action the reverse of that which occasions its contraction; the will relaxing as well as contracting. Dimly as we are compelled to view the subject, it is impossible to resist the impression, that it is necessary to the motions both of extension and flexion in muscles, whether the motion be produced naturally or excited artificially, that there should be two antagonist forces of repulsion and attraction, which must act coetaneously.

The question whether expansibility is a vital property receives an additional importance when we come to consider it in connection with the functions and motions of capillary vessels. This system of vessels undoubtedly penetrates every part of the animal frame, and though it cannot constitute the ultimate structure of tissues, it is the last to be distinctly traced by our means of observation, and, in consequence, demands a high consideration in both a physiologica

and pathological point of view. Though distinct from the matter of tissues, yet, in this system of vessels, aided by the action of its nervous fibrils, their bases must arise, and in connection with them the developement of all observable pathological phenomena. It is a direct and justifiable conclusion that disease of the capillaries cannot exist without change or suspension of their action, and, consequently, without materially interfering, and, in some cases, abolishing the functions of any organ to which they may belong. It is therefore apparent that the judicious treatment of every disease must have reference to the condition of the capillary system; and it is certainly desirable, in looking for our therapeutic agents, to consider whether our object is to increase a contractile or to lessen an expansile action in these vessels.

It seems to be conceded, at least by many physiologists, that the capillary circulation is independent of any impulsion of the heart. The doctrine embracing this subject was taught as early as Stahl and Van Helmont; and the adequateness of the capillaries to maintain their own circulation was clearly shown and enforced in the *Zoonomia* of Darwin. Physicians are indebted to Bichat for the beauty with which he illustrated, and the force with which he called their attention to a renewed consideration of the subject. Broussais not only maintained the independence of the capillary circulation, but attributed the venous circulation, chiefly, to the impulsion given to the blood in this system of vessels.* In this country the belief in the capillaries as organs of propulsion, with its necessary accompaniment, a vital property of expansibility, has been embraced by Professor Smith of Yale College, by his son, Professor N. R. Smith of Baltimore, and by Dr. Hodge of Philadelphia. But to no one is science more indebted for a bold elucidation of expansible and contractile forces, as vital principles, than to Dr. H. H. Sherwood of New York.† It thus appears that the doctrines of a force antagonist to that of contractility, with the perfect independence of the capillary circulation, and an actual influence exercised by it over the general circulation, have been long since promulgated and entertained by a numerous class of physiologists.

Capillary motions being exceedingly minute and essentially vital and organic, they admit of but little demonstrative proof, and

like other operations of the kind, may never receive a clear exposition. It is adduced as a proof of the independence of the capillaries of the heart, that the pulsation of the latter organ becomes imperceptible in the smaller arteries before reaching the former system of vessels, and hence that in them its force must be entirely spent. A higher evidence is afforded in the existence of a capillary circulation in those classes of animals—as the vermes—in which no heat exists. The experiments of Fabre on the mesentery of frogs, show that slight stimulations will change the generally monotonous regularity with which the blood passes from the arteries through the capillaries into the veins. By irritating this membrane he found the blood and other fluids rush, for some moments, towards the point irritated; and after accumulation there, the globules have been seen to take a different direction, and even to traverse the vessels that conveyed them in an opposite course. The idea of an expansible capillary force has an equal foundation in the fact that capillary circulation can be carried on without a heart, and is proved, experimentally, by excitants having been seen, by Hastings, Wedemeyer and others, to occasion not only contraction but dilatation of the capillaries. In addition to the proof afforded by this experiment, the phenomena observed in the erectile tissues, have been considered, though upon insufficient foundation, to favor the hypothesis. I have wished to make this subject clear, because, notwithstanding its foundation in natural organic laws, and the most demonstrative experiments, the heart has never ceased to be considered, by the mass of physiologists, as the sole mover of the circulation; and, very recently, some physical experiments, *with water*, on the dead, relaxed and, perhaps, disorganized vessels of an animal have been triumphantly adduced as proofs that the capillaries are inactive in the circulatory process.

From the above inquiry it is manifest that a distinct action,—consisting of an exertion of both the contractile and expansible forces—of the capillary vessels, is the agent by which the blood and other fluids are propelled through them. Admitting this as an obvious matter of fact it remains for us to ascertain, both for its value as a physiological truth, and as a basis from which to apply remedies in disease, what is the specific cause by means of which this action is accomplished. In this inquiry, it must be confessed, we can derive but little assistance from the researches of the anatomist, and the physiologist must therefore look for its elucidation from other branches of science. The experiments and the reasoning which

* American Journal of the Medical Sciences, No. 4, p. 484.

† Motive Power of the Human System. *Passim*.

these afford, when cautiously applied, have frequently enabled us to arrive at physiological truths, which we perhaps could not have attained by any other method, and which may have been beyond the reach of actual observation.

I have already adverted to the fact that the blood of the two great circulatory systems—venous and arterial—bear towards each other different electrical relations; and in this circumstance I am disposed to look for light by which we may be able to understand the precise nature of the vital powers of the capillaries, and the process by which they maintain their circulation. In the absence of command over any of those delicate instruments which have been devised for ascertaining the electrical states of bodies, I have been unable to determine, by direct experiment, which is the negative and which the positive fluid; but for reasons which will be rendered more obvious in a future communication. I have concluded that the arterial is the positive, and the venous, the negative. Reasoning upon both the fact and the conjecture, we may further suppose that the blood, in the healthy condition of the system, leaves the heart with its electrical equilibrium slightly disturbed in favor of the positive state. The arterial side of the capillaries, deriving their nutriment from the unaltered arterial blood, must be in a similar state of excitation, and upon the approach of the blood, will, in conformity with the universal law that similar electricities expand and repel, become enlarged in their calibre, and, at the same time tend to repel the blood. But this fluid, being impelled forwards by the *vis a tergo* of the heart and arteries, is compelled to enter as the capillaries are compelled to receive it. It is well known that in this intermediate portion of the sanguiferous system the blood undergoes that important alteration which changes it from arterial to venous. In the process by which this alteration is effected the blood becomes carbonated, and the functions of secretion, nutrition, and some degree of calorification are effected. It is impossible to conceive of so material an alteration in the physical properties of any substance taking place without inducing a varying relation in its electrical condition; and accordingly we find, by experiment, that venous blood has its electrical equilibrium disturbed, and, we may suppose, on the side of the negative state. As a consequence of this change and of the common electrical law, that opposite electricities attract and contract, the capillaries will now be excited to contraction, and their contents will be forced into the veins. I have given this

part of my subject but a hasty examination; and yet it appears to me that it affords a simple and probably true way of explaining how the capillary circulation is maintained.

I have hitherto considered the functions of the capillaries in connection with the science of physiology, but their agency in disease is an object of more importance to the physician. Enlargement of the capillaries, with diminished or irregular action, is one of the most common proximate causes of disease, and more particularly of chronic affections. If the capillary circulation be independent of the action of the heart, this enlargement of capillary vessels cannot be, as commonly supposed, the result of simple relaxation, and dilatation by the injecting force of the heart. It is evident that for this condition of the vessels to exist there must be a deviation from a natural state; and it appears to me more philosophical as well as more in accordance with experimental reasoning, to suppose that this has arisen from a subversion of an exact balance between the vital force of contractility, and an opposing force of expansibility, than from a simple mechanical relaxation.

The interest which this subject inspires derives increased importance from its connection with the formation and growth of tubercles. It has already been remarked that these adventitious substances are the result of a certain diseased condition of the system, which it is highly probable has its salient point in a derangement of the blood. Their immediate precursor is a turgescence of the lymphatic glands, or of the whole or a part of the tissue of the organ in which they are formed; and it may be inferred, from post mortem appearances, in some cases, that this simple turgescence may result mortally, or pass away with the recovery of the patient, without the supervention of tubercles. In order that the turgescence may be followed by tubercle, it would seem to be necessary that it should extend to that degree that all power of contraction in the capillary vessels is lost, and consequently to an ability to empty themselves of the contained fluids. In this state the fluids coagulate, and a new morbid process is set up; changes occur in the vessels themselves, as well as in the cellular texture surrounding them.

The process by which tubercles are formed, it is conceded, may go on to a very considerable extent without any accompanying inflammation, while it is ascertained that the condition of the capillaries, supplying them with nutriment, undergo the change in magnitude which has been considered the characteristic effect of inflammation. It is of the

utmost importance, in a practical point of view, to distinguish this apparent resemblance, and, at the same time, pathological difference between the process of inflammation and that by which tubercle is formed: the one from the other.

Inflammation, according to the views of those who confine their belief to a single vital principle, is generally considered dependent on a diminution of contractile force, and consequent relaxation of the vessel, with dilatation from the injecting force of the heart. That this cannot be the true explanation of the phenomena, even as understood, is evident from its incompatibility with another acknowledged doctrine, that a larger quantity of blood passes, in the early stage of inflammation, through these very vessels. The increased capacity of the vessels for transmitting fluids implies that their function instead of being passive must be more active—a state entirely inconsistent with the view that inflammation depends upon relaxation of tonicity in the extreme vessels. It would be more in accordance with a reasonable deduction from facts to consider that in the earlier and, perhaps, real stage of inflammation, there is an active expansion of the extreme vessels, sufficient to admit of the state characterised as hyperæmia, and analogous to that known to take place in the heart during its diastole, but more permanent. This action of the expanding force, or *turgor vitalis*, of the capillaries falls short of that degree which would subvert contractility, but is sufficient to modify or even to stimulate it to increased but unequal exertion. Inflammation, according to this view, consists, at least in its forming and active stage, in an increased action of the two vital forces of contractility and expansibility, with, perhaps, a preponderance on the side of the latter.

In the formation of tubercle another process in the capillaries takes place. Their growth and enlargement depend upon the vital power of expansibility, in these vessels, having, a slowly formed but, such a certain ascendancy that the opposing force of contractility is diminished, subdued, or ceases to act. In this state of moderate but permanent dilatation of the capillaries an undue afflux of morbid but white fluids takes place in conformity with simple physical laws. The expansion, in all probability, depends upon an increased repulsion between the fluids and walls of the vessels, arising from an increase of electrical excitation in both fluids and vessels. As upon hydraulic principles the motion of fluids through pipes diminishes with the increase of their calibre, so the first effect of the expanded capillaries,

whether in the turgid tissue or affected gland, must be simply a slower motion of its fluids than in healthy vessels. In the earliest stage and simplest form of the disease; this may be the whole pathological condition; but as soon as the balance and harmony between the two forces in the capillaries is seriously disturbed, their fluids cease to circulate, become stagnant, and their various constituents, which were maintained in a homogeneous state by constant motion, begin to decompose and undergo separation by precipitation. In place of the vital transudations into the secretory tubes of the lymphatic glands, by which the proper secretions are formed, the increased quantity of fluid, and the slowness or entire absence of its motion, admit of those changes and structures which constitute the substance of tubercle. Chemical or electrical laws take the place of the simply vital, and the effused fluids, stagnant and insusceptible of organization, assume a solid and crystalline arrangement. The forms of tubercles, induced under these circumstances, are modified by the mechanical resistance of the structures in which they are produced, but have sufficient generic resemblance to show that they are under the control of one general law.

Tubercle, as thus explained, is a non-vital or foreign body, capable of undergoing no change that is not induced in it by external agents, but, by its irritation causing the surrounding tissues to pour out fluids which soften, dilute and dissolve it. This softening commences at the circumference, and is a consequence of the changes excited in the living tissues in which this matter is deposited. The parts in immediate contact with the tubercle pour out serosity, and take on the ulcerative action, by which the tubercle is not only softened, but is gradually transmitted, by continuous ulceration, to the bronchiæ; whence it is expectorated. These processes are the efforts by which nature relieves itself of an exhausting irritation, and attempts a cure of the disease. After their discharge, if the curative powers of nature retain sufficient force, a new membrane or lining invests the resulting cavities, and the patient, with a diminished respiratory apparatus, may be enabled to live on, and even to attain good health. This fortunate result, long since foretold by Laennec and others, recent anatomical investigations have so far demonstrated to be true, that no practical pathologist, upon fully considering the subject, can doubt that tubercular phthisis is a curable disease.

The pathology of tubercles, then, according to the views of the writer, consists in an expanded state of the extreme vessels, pro-

duced by electrical force, and causing, by a perversion of the nutritive process, the formation of new products, chiefly in the lymphatic glands of the serous tissues. This may be considered as manifested by their increased size, experiments on the electrical relations between venous and arterial blood, the character of their composition, their general location, and, as explained in our preceding number, by their susceptibility to pain, upon pressure on the sympathetic ganglions of the spine. They are a secondary effect of a peculiar depraved state of the system. Though the precise state of the deprivation preceding and accompanying tubercles is unknown, yet it seems to be ascertained that it is independent of any kind of inflammation—the usual source of morbid growths in the animal economy—and reason has been afforded for considering that it probably arises in a morbid state of the blood, imparting to the arterial portion a more exalted electrical relation. The effect of this electrical excitation is to stimulate the capillaries to expansion, to cause an interruption in their accustomed actions, to allow their fluids to stagnate, and to induce a suitable condition in the part affected for the action of physical and chemical laws. Tubercles thus becoming non-vital, matters in the system, excite efforts of nature for their expulsion. The irritation induced by them, as foreign bodies, produces an effusion of fluids from the surrounding tissues—(by which they are sooner or later dissolved)—and inflammation and ulceration in the direction of the nearest surface, by which the now liquid matter may escape, commonly through the bronchial tubes.

On the Pathology of the Tuberculosis.
By Dr. Clese, Practising Physician at Stuttgart

In this essay the author treats of the occurrence of tubercles in these several organs.

The Lungs. Here tubercles are so frequent that Louis established the principles, that, in every case in which tubercles are found in other organs, they exist in the lungs also; that tuberculosis in the lungs is always much further extended than anywhere else; and that in consequence, the presence of tubercles in the lungs would appear a necessary condition of their development in any other part.

Recently, however, exceptions to this have been not unfrequently observed.

Amongst 152 cases of adults suffering from tubercle, that were examined by the author (where tubercles were present either in the peritoneum, the pleura, or in the bronchial and mesenteric glands simultaneously,) he found six where the lungs were free from tubercles; also in some special cases the tuber-

culosis was more important and further extended in some other organs (the peritoneum and lymphatic glands,) than in the lungs. Yet the rule ever remains standing, that in the great majority of cases, tuberculosis of the lungs forms the predominating affection, although frequently during the life-time, disease in the other organs appears the more intense.

In childhood, however, tubercles of lungs do not seem to predominate, but rather tubercles of the bronchial and mesenteric glands. Nevertheless, the observations of the author and of Barthez and Rilliet tell for the contrary. With children, as well as with adults, the lungs must be held to constitute the chief seat of tubercles, save that with them the exceptions are somewhat more numerous than with adults.

The author further found, in more than three-fourths of the cases which he examined, tuberculosis simultaneously spread over several organs. The number of cases of insulated tuberculosis in childhood is very small; the tendency towards general diffusion being strong. The author rarely found one lung only affected with tubercles; when that did occur, it was, in the majority of cases, the right lung which suffered, that being also when both were diseased, the one most extensively affected. This observation refers equally to children and to adults. In most of the adult cases observed by the author, the tuberculosis of the lungs advanced to the formation of vomica; this, however, occurred less frequently in children. Barthez and Rilliet found them in not quite one-third of the cases which fell under their notice. It is chiefly the acute tuberculosis which causes death before the ripening of the tubercles, and this is with children by far more frequent than with adults; yet chronic phthisis often exists without ever arriving at the formation of vomica. Death occurs with children more frequently by the intercurrent of other diseases (particularly acute hydrocephalus).

As concerns the seat of tubercles in the lungs, they begin usually in the apex and in the upper lobe, and spread from thence to other portions of the organ. It is but seldom that an exactly equal degree of intensity and development of tubercles is observed at the same time, in both the upper and lower lobe (and when it is so, it is usually a concomitant of the miliary form). In some cases, indeed, the author found the seat of the tubercles in the lung to be exclusively in the lower lobe, but then the tubercles were insignificant and secondary: more frequently, indeed, in a complete case of pulmonary phthisis the disease was found to have been confined to the upper lung until its terminal stage.

Bronchial Glands. Among 152 cases of adult bodies with tubercles which he examined, the author found eight only with tuberculosis in the bronchial glands. These eight arrange themselves into three classes: 1st. Those accompanying the more diffused tuberculosis; these were four in number. 2ndly. Those accompanying tuberculosis of the lung without considerable diffusion of the disease in any other organ; including two cases. 3dly. Those in which it was the only, or at least the prevailing affection; they also were two in number. None of these individuals were above thirty years of age.

It is an established fact, that with children the bronchial glands are very frequently, and by far more frequently than with adults, the seat of tubercles. Some writers have however gone too far, in asserting that the phthisis of children is chiefly or alone a consequence of bronchial tuberculosis. The author never found tubercles in these glands alone, but always accompanied by simultaneous affections of other organs.

Barthez and Rilliet maintain that very few cases of insulated bronchial tuberculosis are met with, but that they are generally united with corresponding affections of the pleura and lungs. Bertin also assigns a secondary place to bronchial phthisis, and according to him the tuberculosis of the bronchial glands diminishes in frequency from one decade of years to another, and never occurs after the close of the third decade. Barthez and Rilliet knew no important difference in the frequency of the occurrence of bronchial tubercles in the several ages of childhood, or at most observed a very small preponderance in young children, while Bertin remarked the disease three times as frequently between the ages of two and eight years, as between nine and fourteen years.

The Larynx and the Trachea. Pathologists are at variance upon the nature of ulceration of the larynx and of the lining membrane of the trachea in phthisical patients; Louis declares that he never in one single case found tubercular granulation in these organs; he therefore attributes the origin of the ulcers almost always to a simple inflammatory process, occasioned by the irritation of the expelled matter frequently resting on its way; yet it has recently been placed beyond all doubt (by Rokitsky and Hasse), that a third part of the ulcers found there, are really of tubercular origin, while certainly the erosions so frequently observed seem to be the product of a simple inflammatory, catarrhal, or aphthous process. The author also in many cases convinced himself in the most decided way, of the tuberculous nature of these ulcers, yet he found some where no

tuberculous formation was to be discovered.

Deep ulcerations appear most frequently to be seated in the larynx; and superficial ulcers are more frequently found in the epiglottis and trachea.

Amongst the cases observed by the author, not a single one appears where the tuberculosis or ulceration of the larynx and of the trachea formed the primary and predominating affection; it was always secondary and attendant upon the simultaneous disease of the lungs.

According to Louis, ulcerations of the larynx and trachea are twice as frequent in men as in women; and according to Hasse they occur most often between the twentieth and twenty-fifth years of age. In childhood these ulcerations are very rarely found.

Pleura and Peritoneum. Tubercles in serous membranes are ordinarily regarded as signs of tuberculous inflammation (pleuritis, peritonitis, and tuberculosis;) but a true inflammatory process is not always connected therewith. This tuberculosis is with phthisical patients of rather frequent occurrence, and attacks all ages from early infancy to advanced years: but it is perhaps with children more frequently than with adults.

If with adults the pleura is more frequently affected than the peritoneum, yet tubercles of the peritoneum, when they do occur, are more general and more productive of serious after consequences; so also the symptoms produced by tubercles of the peritoneum appear with more intensity and virulence.

Chronic peritonitis, when not produced by organic disease of some of the abdominal organs, is founded almost without exception on tuberculosis of the peritoneum, and very frequently a simultaneous affection of the lungs is more or less and sometimes altogether masked by the appearance of peritoneal disease. Tubercles of the pleura and peritoneum present themselves, it is true, most frequently as secondary affections, and principally as the product of intense universal tubercular dyscrasia; yet they do occasionally appear as primary, and even as the only tuberculosis. So also the author observed upon the pleura, broad, flat, confluent tubercles, single and insulated; the same upon the peritoneum, where he also remarked a peculiar appearance of the tubercular matter. Each single tubercle was at its base surrounded by a black or blue-black ring, formed by melanotic segment; sometimes a red border around the tubercles of the peritoneum and pleura, was also seen.

According to the observations made by the author, the peritoneum and mesenteric glands are seldom affected with tubercles at one and the same time; indeed, a high degree of the

disease in the one, appears almost entirely to arrest or prevent it in the other. This was established by Berthel and Rilliet; but Rokitsky asserts, on the contrary, that the result of tuberculosis of the peritoneum is usually tuberculosis of the abdominal and lymphatic glands.

Heart and Pericardium. Tubercles on the pericardium range amongst pathological rarities, and do not easily attain to a serious and excessive degree. According to Rokitsky they usually arise out of the tubercular metamorphoses of an inflammatory exudation; this, however, in one case observed by the author, was not confirmed.

With children, tubercles in the pericardium and upon the serous membranes, occur more frequently than with adults. The author never saw tubercles in the muscular tissue of the heart; they do indeed present themselves there very rarely, and thence spread. Upon the endocardium and upon the lining membrane of the vessels, according to Rokitsky, they never appear.

Intestinal Canal. Tuberculosis of the intestinal canal appears in two states; as sub-mucous tubercular-granulation and infiltration; and as ulcer. (Probably many enlargements of the mucous-follicles and erosions are mistaken for tuberculosis.)

The author found in 83 cases (that is, in more than the half of those which he observed,) that the small intestine was affected; and in about a fourth part of them (namely, 37) he found the large intestine also suffering. Louis, on the contrary, observed with five out of six of his phthisical patients, ulcers in the small intestine.

Tuberculosis of the intestinal canal is of frequent occurrence at all ages. It is found the least often in extreme old age, and in the earliest periods of childhood. It is to be remarked, that in the experience of the author, the occurrence of tubercles in the intestine was less frequent between the 30th and 40th years of life than in any other period, whilst in the preceding and following decenniums with two thirds of the tuberculous subjects, tubercles were found in them. Of these two thirds, it appeared that between the ages of 30 and 39 the half were diseased in that organ.

As concerns the affection of the large intestine, it appears that between the 20th and 30th years of life there is strong disposition in this disease to seat itself there, since more than the half of the whole cases in which it was found there occurred in this period. In no single case of tuberculosis of the intestine did the author find the disease existing there alone; neither did he ever find it predominant and inclined to spreading when there was

simultaneously existing tuberculosis of the other organs. It consequently appears that it never here exists as an isolated or primary affection.

The author only once found ulcers in the stomach and œsophagus; Barthel and Rilliet, on the contrary, remark that the stomachs of young children appear to be more frequently affected than those of older persons, the reverse of which is observed with regard to the small and large intestines.

Ulcers in the duodenum are very rarely found; but when present, according to the observation of the author, they most frequently commence near the lower portion.

As concerns the affection of the large intestine, it is most commonly found existing simultaneously with that of the small intestine, though it is indeed in some exceptional cases found where the small intestine remains healthy.

The cæcum and ascending colon are frequently attacked by tuberculosis; the further downwards the less frequent the affection; the author never found it reaching below the descending colon.

Whilst the tuberculosis of the large intestine is of more rare occurrence than that of the small intestine, yet, in some individual cases, the former reaches an intensity never observed with the latter.

Mesenteric Glands. In these glands both Louis and the author found tuberculosis in a fourth part of their phthisical patients, and at all ages; yet they appear more liable to attack in advanced age than in the prime of life. They were seldom affected in any preponderating degree between the 30th and 39th years of life, whilst during the preceding, and still more during the following decennium, the proportionally largest number of cases was presented. With children, however, the tuberculosis of the mesenteric glands appears to be somewhat more frequent than with adults of middle ages (but with them it seldom presented isolated or in preponderating degree, and mostly only as the accompaniment of a general and diffused tuberculosis). Barthel and Rilliet found indeed the existence of tubercles here in almost the half of their cases; but only in one of 22 children were they of any serious extent. They found also that in these glands they scarcely ever appear before the third year.

The author thinks that it is without reason that these glands, together with those of the bronchia, have obtained so prominent a degree of attention in our days, amongst children's diseases. The too conspicuous rank given to them is caused by a mistaken opinion respecting the enlarged bellies of children, to which this character has been

given; these enlargements, however, are often altogether independent of tuberculosis or other degeneration of the mesenteric glands.

So far as concerns the connection of the tuberculosis of these glands with that of other organs, it appears only, in general, associated with further developed deposits in other organs, as the sign of a high degree of tuberculous dyscrasia, and holds only a secondary and subordinate place. That organ in which tuberculosis most frequently accompanies tuberculosis of the mesenteric glands, is the intestinal canal; yet tubercles in the mesenteric glands are nevertheless independent of the formation of ulcers in the intestinal canal. The latter frequently occasions simple redness and swelling of those glands.

Mesenteric and peritoneal tubercles are seldom found simultaneously. In one case, indeed, the author found fully-developed mesenteric tubercles (with deposition of bone-earth) in a female patient aged 41, who died of pulmonary phthisis. The lungs, with the bronchial and mesenteric glands, are the only organs in which the author has observed the process of earthy deposition.

Liver. In adult age this organ is one of those most rarely attacked by tubercles, which when they do occur scarcely ever progress very extensively. The tuberculosis stands here in strong contrast with carcinoma, whose especial seat is in the liver. With children, however, tubercles of the liver are more frequent. Barthez and Rilliet found their existence in this organ in one fourth of the cases of children affected with tuberculosis, but generally in a secondary and subordinate degree as compared with their presence in other organs.

Spleen. With adults tubercles are here also seldom found, and scarcely ever do they arrive at any extended development or occur in large masses. But it is otherwise with children, with whom Barthez and Rilliet found them present in more than a third part of their cases; and in intensity exceeding on the average that of the other organs. Tubercles in the spleen are, according to the author, not only very frequent with children, but, if we except the lungs and the serous membranes, in no other organ do they so often appear. The volume of the spleen is thereby usually increased; it sometimes, however, is observed that the spleen is quite covered with them and yet retains its ordinary size, the parenchyma being sometimes softened and at other times of natural consistence.

It is worthy of observation that, notwithstanding the frequency and intensity of tuberculosis of the spleen in childhood, yet it never appears as a primary or insulated phe-

nomenon. In the majority of cases tubercles of the spleen are the concomitants of diffused and general tuberculous disease. Never during life are they known by any separate or special symptom.

The author has often observed the commencement of the softening process of tubercles of the spleen, but never their actual and entire liquefaction accompanied with the formation of vomicae.

The disposition of the spleen to tuberculosis does not appear (as is the case with the bronchial glands) to be entirely lost with old age.

Kidneys. Here tubercles are presented at every age; they are, however, decidedly more frequent in children than in adults, yet they are with them also subordinate to other affections, and seldom obtain an intense degree.

The parenchyma of tuberculous kidneys has always been found by the author in a perfect condition, with the exception of one case, where it was found considerably congested. In the greater number of cases, the tuberculosis of the kidneys was almost entirely unaccompanied during life by any appearance of disease proceeding from it. With some adults in the last stage of phthisis, diabetes insipidus appeared, which, however, the author regarded only as a symptom of general wasting, and independent of the tuberculosis of the kidneys (analogous to the colligation of diarrhoea,) since in the last stage of phthisis and with unaffected kidneys he repeatedly observed the same.

With a boy of 12 years old, in whom the tuberculosis of kidney had reached the highest degree, the urine was strongly albuminous, without the kidneys presenting any appearance of granular degeneration (Bright's disease.)

Uterus, Fallopian tube, and ovary. The tubercular degeneration of the internal genital organs of women has received too little attention. The author observed it six times; and it is by no means of infrequent occurrence, though Rokitansky asserted that tubercles are never found in the ovary.

The author saw tuberculosis of the uterus under three forms: 1st. As tubercle deposited in the substance. 2d. As resting upon the inner superficies. 3d. As converting the whole substance into tubercular matter.

In all cases of tuberculosis of the genitals, there also existed simultaneously the same disease in the adjacent regions of the belly and bowels, but the former appeared only as secondary, and as the expression of a high degree of tubercular dyscrasia. Conspicuous symptoms marked the affection only in one case; in this its similarity with those of

cancer of the uterus was worthy of observation.

At all ages, and also before puberty, the author found the tuberculosis in the parts indicated. Rokitsansky observes, of the tuberculosis of the uterus, that it never extends beyond the *os uteri internum*, and that it never attacks the vaginal portion (in which it differs from cancer.)

Brain and its membranes. The French pathologist first observed the so-named tuberculosis of the arachnoid, which is important on account of its relation to *hydrocephalus acutus*.

The author found arachnoidal tubercles in five children, between the ages of 8 months and 11 years, and with the exception of one case, the affection was always associated with acute hydrocephalus. In all these cases, tubercles existed in the lungs, and in most of them, in other organs also. Barthez and Rilliet once found tuberculosis of the meninges isolated.

Tubercle of the arachnoid easily escapes observation, for it is frequently obscure and of no great extension. Tubercles here are always found on the outer side of this membrane, between that and the pia mater, never upon the inner, whilst this is the case with the other serous membranes. These observations are quite in accordance with the appearance of the simple normal serous effusion, as well as of the product of inflammation of the arachnoid being only to be found on the outer side.

Valleix has described tubercular arachnitis in adults, and affirmed that it is present wherever, in adults, inflammation of the membrane of the brain, or effusion from hydrocephalus exists. The author contradicts this last assertion.

Arachnitis with purulent effusion and hydrocephalus, are certainly often present with adult tubercular subjects, without, however, being necessarily accompanied with tubercular granulation in the arachnoid.

Tubercle in the arachnoid holds certainly a secondary place amongst the other diseased products of the brain.

Tubercles in the substance of the brain are by no means infrequent with children. According to Green they occur most between the ages of 3 and 7 years. Sometimes one single tubercle is found there, and sometimes also they are more in number. This seat is more frequently in the hemispheres of the cerebrum, than in those of the cerebellum. According to Green, in no case were tubercles exclusively confined to the brain, but they always existed simultaneously in the cavities of the chest or abdomen, yet the greater development of the cerebral tubercles

induced the presumption that the disease had originated there. Barthez and Rilliet observed two cases of isolated tuberculosis of the brain. According to the fore-named authors, the coincidence of cerebral and arachnoidal tubercle was frequent. This, however, was not confirmed by the author.

Lymphatic glands. With diffuse tuberculosis it is not infrequent that the glands of the neck, shoulders, abdomen, &c., present degenerated tubercle; also in that case the subcutaneous cellular texture is not infrequently the receptacle of tuberculous matter, which then produces ulceration of the skin.

Muscles, bones, and joints. Although mention has scarcely ever been made of tubercles in the muscles, yet the author twice found them in the case of children suffering under the highest degree of scrofulous or tubercular dyscrasia (they were existing in the musc. soleus, glutæus, and in the tendo achilles.) In both cases, tubercular disease of bones was found in the neighborhood of the affected muscles. The tubercles were of roundish form, and from the size of millet grains to that of hemp seed, of whitish yellow color, and mostly solid, but some of them half-liquified, and resembling pus. Rokitsansky denied the appearance of tubercles in muscle in the form of original grey tubercles; according to him they are no more than tubercular exudations.

Tuberculosis of the bones is in a majority of cases the cause of pain in the bones in scrofulous and phthisical subjects. These tubercles also occasionally appear isolated and without the simultaneous affection of inward parts. Even with adults, tubercular affections of the bones sometimes appear.

In the joint itself also, and in its soft parts, the author once found tuberculous degeneration, (namely, in the sterno-clavicular articulation,) and at the same time the ends of the bones were carious and impregnated with tubercular matter.

The author has never found tubercles in the thyroid gland, in the pancreas, in the salivary or in the mammary glands. The testimony of Rokitsansky supports his experience, that in these organs they are never presented. On the contrary, tubercles in the testicle are often spoken of by writers. Rokitsansky also mentions them, and says, "they not infrequently appear there first, and spread from thence to the other sexual and urinary organs."

The frequency with which the several organs subject to tuberculosis are, in the case of adults, liable to the disease, is in the following proportion: Lungs 146, small intestines 83, mesenteric glands 38, large intestines 36, peritoneum 18, pleura 13, larynx and tra-

chea 10, brouchial glands 6, external lymphatic glands 6, female parts of generation 5, spleen 4, kidneys 4, bones and joints 3, liver 2, membranes of the brain 1, pericardium 1; all together 152.

The proportion as given for childhood would be very different, and in advanced age also, particular exceptions occur.

The lungs at every period of life are the most liable to tuberculosis, but the cases in which the lungs remain sound, whilst other organs are attacked, are yet more scarce in adult age than in childhood; and the difference between the frequency of tubercles in the lungs, and their frequency in the organ standing next in liability to attack, is with adults much more considerable than with children.

In childhood, next after the lungs, the bronchial glands are most exposed to this disease; but with adults its occurrence there is rare, and almost unheard of after the 30th year.

In like manner, the presence of tubercles in the mesenteric glands is more frequent in childhood than in adult age, yet the difference here is not great; and the affection of these glands is secondary in importance to that of the bronchial glands. With them, however, liability to tubercular degeneration does not appear to be lost with advanced age.

The liver, spleen, and kidneys are more frequently affected with tubercle in children than in adults. Of these three organs, the spleen is with adults the most rarely attacked.

Cases of tuberculosis in the serous membranes, are also in childhood more numerous than in adult age; especially in the arachnoid, and in the brain itself.

On the other hand, adults are most liable to tuberculous disease in the intestinal canal. Tuberculosis of the larynx and of the trachea appears particularly to occur between the 20th and 40th years of life. With children it is very rare, and it is infrequent also in old age.

The internal genital parts of females may be attacked at any age; yet such affections are less frequent in childhood than in adult years.

The question whether a physiological law may somewhere be established according to which the development and distribution of tuberculosis in the several organs may be ranged, can hardly yet be answered. The assertion of Hasse, that "the development of tubercle in the different organs happens most frequently simultaneously with their greatest physiological activity," is easily confuted by matter of fact.

With regard to the difference of tuberculosis in childhood and in adult age, so much

may perhaps be explained, that with a fixed tubercular dyscrasia in the organs of children, the specific matter of the disease is deposited with greater ease, and in larger abundance in the different organs, on account of the changes of tissue, and of the freedom of the function of nutrition and circulation at that period of life. Doubtless these circumstances have their effect as respects the tendency of individual organs to tubercular affection, or the contrary.

That tuberculosis has in childhood a greater tendency to general diffusion, than later in life, is an established fact. Amongst the children who fell under his notice, the author found only one case in seven, where the disease was confined to one organ or one cavity of the body; whilst on the contrary, it was with one-fourth spread over all their cavities.

With adults as with children, tuberculosis manifests a tendency to general diffusion; but the disposition is more strongly marked in childhood. In one-fourth only of his adult cases did the author find the affection confined to one organ, and with more than two-thirds it had established its seat in all the three cavities of head, chest, and belly.

This tendency of tuberculosis to general diffusion in many organs, and to diffusion also amongst the whole human race, is the essential and proper characteristic of the disease, and has procured for it the character of being the most universal of all diseases.

Autograph letter of the King of Prussia to Staff-Physician Dr. Marenzeller of Vienna.

CHARLOTTENBURG, 3d January, 1842.

"I am gratefully obliged to you for the confidence with which you have recommended the homœopathic system to my protection, and attach much value to the recommendation of this important subject by a man, who like you, has practised Homœopathy successfully for so many years. I shall, with pleasure, continue, as I have hitherto done, to give the system every protection which can favor its free development. I have already approved of the establishment of a homœopathic hospital at the expense of the Treasury, and also intend to grant to homœopathic physicians, under certain conditions, the right of dispensing their own medicines.

"I remain, &c.

"FRIEDERICH WILHELM."

[*Leipsiger Zeitung.*]

Professor Roger's Lectures and Experiments
On the subject of "Animal Magnetism" or "Mesmerism," "Clairvoyance," &c.

The last of these highly interesting, amusing and instructive entertainments, took place at the large saloon of the Mercer county court house in South Trenton, on Saturday evening, the 14th inst. That spacious apartment was crowded to overflowing with the largest and most intelligent audience which has attended any public lecture in this city during the past winter. There were present a large proportion of the members of both houses of the legislature of New Jersey, many of the most respectable lawyers, physicians, and clergymen of this city, men of science, ladies, merchants, artists, mechanics and other. The experiments were of the most surprising and interesting character, and highly gratifying in their results. "Miss Martha," daughter of Prof. Loomis of Philadelphia, who usually accompanies her;—whose exhibitions of clairvoyance had previously excited great admiration, was thrown into the "mesmeric state" by Professor Rodgers, and after her eyes had been most carefully blindfolded, by a committee of gentlemen selected by the audience, she read a large number of newspapers furnished by persons present, also designated the time by various watches handed to her, told the denomination of various bank notes and the names of the banks by which they were issued, and pointed out the different flowers in a bouquet, and told with accuracy the names and colors of all of them. These experiments were very surprising, and excited general wonder and admiration.

A young lady, suffering severely from a diseased tooth, was then placed upon the stage, and mesmerised. A committee, composed of the Hon. Mr. Kitchell of Morris, the Hon. B. Hamilton, Senator from Sussex, Edward I. Grant, M. D., and the Hon. Mr. Halsted of Trenton, and George W. Smyth, Esq., of Warren, and Mr. Gustin, of South Trenton, were appointed to superintend the experiment, being the same persons who bandaged the eyes of "Miss Martha." Dr. A. H. Armour, Surgeon Dentist, of Trenton, was called from the audience to extract the tooth. He and the committee concurred in pronouncing the tooth much diseased, but firm in the jaw, difficult to pull, and that it had not been previously tampered with. The doctor proceeded to extract the tooth, which caused a copious flow of blood; but the patient gave no symptoms of pain or suffering, and made not the slightest movement of any kind. Shortly afterward, when restored to consciousness, by upward passes, she stated that she did not feel the operation at all, and

had no knowledge of any thing which had passed. The audience was filled with pleasure, and not a little astonishment at the entire success of this most remarkable experiment.

Professor Rodgers next proceeded to operate on some half dozen well known citizens of Trenton, who, on former occasions had been publicly mesmerized by him. This experiment was also entirely successful. The limbs of all those subjects were paralyzed and rendered rigid at will, relaxed, or excited into the most violent action, at the pleasure of the operator. Some were made to dance and sing in the liveliest and most violent manner. Others seemed in deep devotion, and chaunted low and solemn tunes, while others brandished their clenched fists, and manifested all the symptoms of infuriate rage. The audience were by times overwhelmed with wonder and reverential awe; and anon convulsed with irrepressible laughter.

On motion of George W. Smyth, Esq., the following gentlemen were appointed a Committee to prepare and report Resolutions expressive of the sentiments of the audience in reference to Prof. Rodgers, his Lectures and Experiments; viz:—The Hon. William Halsted of Trenton, the Hon. Mr. Kitchell of Morris, the Hon. S. W. Phillips of Middlesex, the Hon. B. Hamilton, Senator from Sussex, the Hon. J. Shotwell from Warren, E. I. Grant, M. D., J. B. James, M. D., A. H. Armour Dentist, S. Hotchkiss M. D., Thomas Gordon, William P. Sherman, Peter Grim, Jr., William Grant, John R. Dill, Joseph Hammet, John B. Anderson, Liscomb R. Titus and Mr. Gustin, Esquires; to whom was added George W. Smyth, Esq., of Warren County. This committee having withdrawn for a short time, returned and reported through the last named gentleman, the following Preamble and Resolutions, viz:

Whereas, Professor Rodgers has delivered during the last three years, no less than fifteen lectures before large and respectable assemblies of the citizens of Trenton and South Trenton, and the vicinity, on the subject of Animal Magnetism, Phrenology, and Clairvoyance; on all which occasions he has successfully magnetised some times two, and several times as many as three and four, and once ten of the audience, persons of good character and incapable of entering into any collusion or fraud to deceive their fellow citizens, on all of whom very astonishing and amusing experiments were exhibited, such as paralyzing the limbs, exciting the organs of tune, benevolence, acquisitiveness, self-esteem, combativeness, etc., etc., and whereas, on two occasions a lady suffer-

ing severely with diseased teeth, accompanied with abscess and extensive inflammation, was publicly magnetised, and had each time a molar tooth drawn, the one by Dr. Hotchkiss, the other by Dr. Armour, respectable Dentists of this city, and in the presence of sundry practising physicians of high character; on which occasions the said lady appeared to be wholly unconscious of pain or suffering from the operation: And

Whereas, This lady, as well as all the other citizens of this place who have been magnetized by Prof. Rodgers, invariably protest that there was no collusion or deception in the experiments performed upon them, respectively, and that they were, at the time of these experiments, wholly unconscious of what they were doing as well as of what was done to them; and to the truth of which statements they express a willingness to make solemn affidavits.—Therefore,

Resolved,—That this audience is forced, by the weight of irresistible evidence, to conclude that there is reality in what is denominated "Animal Magnetism," or "Mesmerism," and that by the gaze of the eye and certain manipulations, properly employed, persons can be thrown into the so-called "magnetic state," in which the mind and actions of the patient are subject in a great degree, to the will of the operator: and as in natural somnambulism, the person magnetized may do many things and may be subjected to many operations and experiments of which he or she will retain no recollection or consciousness when restored to the natural condition. And

Whereas, "Miss Martha" has, on several different occasions after being magnetized by Prof. Rodgers, had her eyes effectually bandaged with gloves and handkerchiefs confined at the top and bottom with tape by a committee of intelligent and scientific gentlemen appointed by the audience, and not unfrequently chosen on account of their skepticism; and when thus blind-folded to the entire satisfaction of the committee and the audience, with scarcely any exception, she having promptly read the heading of newspapers and handbills, and told the denomination of bank notes, and described pictures and sundry other articles furnished indiscriminately to the audience, and in most cases privately brought as a test of her powers, and shown to no one but the committee; and neither Prof. Rodgers nor any other person who could possibly be in collusion with him or "Miss Martha," being allowed, previously, to examine the same. And she having, in many instances, with great promptitude and accuracy, told in like manner the time indicated by watches, which had been

privately set by their owners; the committee carefully watching in the mean time to see that the bandage was in no wise disturbed so as possibly to admit of her seeing with her eyes:—Therefore,

Resolved,—That "Clairvoyance" as well as "Animal Magnetism" is incontestably proven by these experiments, which demonstrate the interesting and all important fact that the human soul can act independent of the body, and receive ideas and impressions independently of the external senses, that it is immaterial in its nature, and endowed with powers analogous to those of its Almighty Author.

Resolved,—That we have great pleasure in recommending Professor Rodger's lectures and experiments to the liberal patronage of all earnest and unprejudiced enquirers after truth in mental philosophy.

Resolved,—That the thanks of this community are due to Professor Rodgers for his generous and patriotic donation of the proceeds of two of his lectures at the Court House, in behalf of the "Trenton Monument Association," the amount of which is, of course, less a criterion of the liberality and public spirit of the Professor than of the citizens of Trenton.

The foregoing preambles and resolutions having been read, were unanimously adopted by the vast concourse present, with the liveliest manifestation of satisfaction. Whereupon it was unanimously

Resolved,—That the various editors of newspapers in this city be requested to publish the proceedings of this meeting.—*State Gazette, Trenton, N. J.*

Dreaming a Translation.

A French savant, at Dijou, went one night quite exhausted to bed, after long and vain efforts to make out the sense of a passage in a Greek poet. On falling asleep, he seemed to himself to be transported in spirit to Stockholm, where he was conducted into the palace of Queen Christina, ushered into the royal library and placed before a compartment, in which he distinguished a small volume that bore a title new to him. He opened the volume, and in it found the solution of the grammatical difficulty which had so perplexed him. The joy which he felt at this discovery, awakening him, he struck a light and made a memorandum of what he had seen in his dream. The dark passage he now found perfectly cleared up. The adventure, however, was too strange to suffer him to rest satisfied without taking some steps to ascertain how far the impressions of his nocturnal journal corresponded with the reality.—Descartes was at that

time, at Stockholm, and our savant wrote to Chanut, the French Ambassador to the Swedish Court, with whom he was acquainted, requesting him to ask the philosopher whether the royal library had such and such peculiarities, (which he described,) and whether, in a certain compartment, a certain volume of such a size and form, was not there to be found, on such and such a page of which stood ten Greek verses, a copy of which the savant subjoined. Descartes answered the ambassador that, unless the querist had been in the habit of visiting the library for the last twenty years, he could scarcely have described its arrangement more accurately; the compartment, the volume, the ten Greek verses, all tallied exactly with the description.

A counterpart to this story is related by Wangenheim :

The son of a Württemberg jurist was studying at Gottingen, and having occasion for a book which he could not find in the library there, and which he remembered to have seen at home, wrote to request his father to send him the same. The father searched the library for the book in vain; it was not to be found, and he wrote to his son to this effect. Some time after, as he was at work in his library, and rose from his seat to replace a book which he had done with on its shelf, he beheld his son standing not far from him, and in the act, as it seemed, of reaching down a book, which stood at a considerable height, and on which the outstretched hand of the figure was already laid. "My son!" cried the astonished father, "how came you here?" As he spoke the apparition vanished. The father, whose presence of mind was not disturbed, immediately took down the book on which the hand of the figure had seemed to be laid, and behold, it was the very one the son had written for. He sent it, by that day's post to Gottingen, but soon after received a letter from his son, written on the very morning on which he had seen the apparition, and stating the exact spot where the writer was confident the book was to be found. It is unnecessary to say that it was the very spot which the apparition had already indicated.

COMMUNICATIONS.

C. M. S. is a remarkable clairvoyant, and has had much experience illustrating our spiritual relations. She was hourly expecting the death of a young friend about which event, she for personal reasons was peculiarly anxious. It is a custom of the town, to announce a death by tolling the bell. The first sound caused her to faint,

and it required much effort to restore her. After this, she made remarks showing that she was not aware of his death, but still in consequence of the effect produced before the friends dared not tell her. When she went to her room some time after, she saw on her wall in bright characters of a reddish cast, "He is Dead." As it accorded with several other incidents of a similar character, she knew it to be a spiritual communication, and was perfectly calm. She called her mothers and sisters, and they saw it distinctly, and it remained there something like an hour, visible to any one. W.

S. F. was mesmerized at my study, Friday, P. M., and on being left to herself, looked for the reason why a friend who lived many miles distant, had not made her a visit that week as was expected.—Soon she was noticed to be in the greatest and most distracting grief; and after sometime, on coming into communication, said her friend was dead—that he died at 8 o'clock, P. M. the Tuesday previous, that before his death, he requested his father to write to her and that he had so written, and the letter was on the way, and would be in the office in one hour,—a friend went to the office, and found that there was no letter there then, but it was received at the end of an hour.

An extraordinary fact connected with this case, was that S. F. at the very hour when her friend died many miles from her, and (she never having had an intimation of his sickness, but expecting him daily to see) was passing to her chamber, and met this friend at the head of the stairs. She was perfectly conscious of shaking hands,—of asking how he came there, and of his answering, and then passing down stairs, and opening, and closing the door as he passed out. The next thing of which she was conscious, was of sitting on the next flight of stairs, being unconscious of having passed the length of the entry:

Some will say this was a swoon or vision, or something of that kind;—but the fact that this happened at the hour of his death, still remains wonderful, and to be attributed to some cause. W.

DR. SHERWOOD:—

I have read with great interest the communication of W. H. in the last number of the Dissector, in answer to a letter of Mr. Sunderland in a former number. Although I have but little sympathy with Mr. S. in his views, I cannot come to the same conclusions as W. H. I have no disposition to

abate anything from the claims which are made for him, "as the herald of a new dispensation of divine truth."

At least so far as this question is concerned, I shall admit all his followers claim. It is said by Swedenborg that the facts related by him, "were truly done and seen, not in a state of the mind asleep, but in a state of full wakefulness."

If I understand his writings, he saw these things pertaining to the spiritual world by means of his spiritual vision,—i. e., by the same powers through which he now perceives the realities with which he is at this moment surrounded. This I suppose to be the general idea entertained by the members of the "New Church," most of whom I suppose will maintain that Swedenborg was "specially inspired" to "herald the new dispensation," though he says, "The Lord opened the interiors of my mind and spirit."

From Swedenborg's own "revelations," we understand that all human beings will have essentially the same spiritual faculties or organs, but only becoming active or available, to most men, after the death of the natural body. The outward organs are the instruments through which the spirit receives impressions from the natural world.

Now will your correspondent deem it impossible or improbable that any other man shall ever have "the interiors of his mind and spirit," so opened while yet in the natural body as to perceive some things in the spirit world? I trust not.

In this connection, then, we give it as our opinion that by the will of a second person the physical in some individuals may be so held in abeyance as to admit of the action of the spirit precisely as it will act after death, and precisely as Swedenborg's spirit did act without the intervention of a second person. We will not say it will act to the same extent, but in the same manner. We have had facts occur in our experience settling this matter to our entire satisfaction, and helping us to very clear ideas concerning the spirit world and spiritual faculties and relations, before we had ever seen a word of Swedenborg's on the subject. We have been led by this to study Swedenborg's writings, and have not yet found anything to lead us to change from our former conclusions.

We are compelled, however, to distrust the revelations of those whose mercenary disposition would lead them to show the most sacred developments before a curious and scoffing crowd. The best clairvoyant by such a course as this, would soon be ruined for such experiments as led us to our conclusion. It is a use of the most sacred of the powers of man, and they should only—

aye more! they can only be used by those who have a true and enlarged faith, and who use them for pure and holy purposes.

If your correspondent is a true disciple of Swedenborg, and he should ever have a clairvoyant having full faith in the ideas entertained by "The herald of the New Church," and he should from pure and holy motives seek communion with the spirit world, he would be led to see that the phenomena in some of the more advanced states of the clairvoyant are more nearly allied to the experience of Swedenborg than he at present conceives possible.

If these conclusions into which we have been led are correct, what wonderful consequences shall result to the world as they shall come to be generally understood. It is in view of these consequences that I have been led to offer this communication in the hope that it may do something to lead to high conceptions of one of the most valuable and sacred developments of science.

Yours, &c.,

AN ADMIRER OF SWEDENBORG.
New-York, March 17th.

From Dr. Black's *Treatise on the Principles and Practice of Homœopathy*, p. 175.

"The first extract then we give is one attested by Hufeland, which is a sufficient guarantee for its impartiality and authenticity. (Hufeland's *at Jatrognomick*, Berlin, 1829.")

"The success of a homœopathist, Dr. Stap, in curing Egyptian ophthalmia among the soldiers in the garrisons of the Rhine, attracted the attention of the Prussian Minister of war, who solicited him to visit Berlin, to take charge of its military hospitals, Lazareth and La Charité. He accepted the invitation and officiated to the entire satisfaction of the minister. HUFELAND, who introduced Stap to the assembled company of La Charité, then paid him a deserved personal compliment, and at the same time expressed these impartial views respecting the homœopathic system:

"Homœopathy seems to me particularly valuable in two points of view—first, because it promises to lead the art of healing back to the only true path of quiet observation and experience, and gives new life to the much neglected subject of symptomatology; and secondly, because it furnishes simplicity in the treatment of disease. The gentleman, whom I have the honor to present to you, is not a blind worshipper of his system; he is, I have learned with joy, as well acquainted with the entire science of medicine, and as classically educated as he is well informed in the new science."

Treatment of Indurated Tonsil Glands by Compression.—Professor Huss of Stockholm, has employed the following method with success. He introduces the index-finger into the mouth, and compresses the indurated gland with its extremity for several minutes at a time. This is repeated three or four times a day. After some days of this treatment, the professor states that the gland becomes softer, absorption commences, and the surface of the tonsil is evidently relaxed and wrinkled. When this condition has been attained, stimulating gargles may be employed. The author remarks that this treatment should always be tried in those cases in which excision is contemplated.

Gazette de Hopitaux.

Diseases of the Pancreas.—In "Casper's Wochenschrift," No. 17, Dr. Melion, of Freudensthal, has published an essay, with the object of giving more precision to the diagnosis of pancreatic diseases. Four cases are recorded, in two of which he was able to verify his observations by post-mortem examinations. The symptoms were pain in the epigastric region, vomiting of albuminous fluids, constipation alternating with diarrhoea, fixed pains in the loins and shoulders, rapid emaciation, and great mental depression. "In the first fatal case, the pancreas was found adherent to the liver and stomach, and was of a cartilaginous hardness; in the second, the organ contained a cavity in its centre, filled with an ichorous fluid. [It is to be feared that in the catalogue of symptoms above mentioned, there is none which can be considered as in the slightest degree aiding the author's object. Dr. Dick (Medical Gazette, October, 1845,) is, beyond doubt, correct in the statement that there is no single symptom strictly indicative of pancreatic disease, and that no system of treatment, therefore, can be laid down.] M. Cenic* has noticed the connection between pancreatic disease and spermatorrhoea.

ON HOOPING-COUGH.

By Dr. KASEMANN of Lich, in the Grand Duchy of Hesse.†

Since I began to practice homœopathically, I have seen several epidemics of this disease, and the results I have obtained, force upon me the conviction, that we cannot boast of so much certainty in this, as in many other diseases, the cause of which seems to depend, partly at least, on some peculiar circumstances connected with the disease. For,

* Il Raccoglitore Medico, and Gazette Medicale, Sept. 28, 1845.

† Extracted from the Hygea, vol. x.

not to mention many other things, were we actually in possession of a better knowledge of remedies, so diverse are the shades of the accompanying symptoms, that their elucidation is often a matter of difficulty; for we seldom or never see the children during a fit: and as in many the severe fits occur only at night, we are deprived of all opportunity for observing them. As, however, it is necessary to ascertain the symptoms with extreme accuracy, in order to determine the choice of a remedy, it will be found extremely difficult to do this here, for most children are unable to describe their sensations, and the parents or friends are not always gifted with good powers of observation; they are indeed often very careless, many things completely escaping their notice: they, consequently, give but a superficial history of the case, notwithstanding the most careful examination. But, although I would not relinquish the homœopathic practice for any other, although I have met with some success, and have indeed obtained some speedy and favorable results, still my mind is not yet perfectly at rest, for, under similar circumstances, many patients have been little or not at all relieved, and the disease has run its course unabated. I am, consequently, forced to express a wish, that ere long we shall attain to greater certainty on this subject.

Were it true that the proximate cause of hooping-cough consists in a catarrhal inflammatory irritation of the organs of respiration, then there might be a possibility that Aconite would be of good service, but the possibility would never rise to a certainty; for it is far from true, that Aconite is applicable to all diseases dependent on inflammation or inflammatory irritation. On the contrary, inflammatory affections of different organs seem to demand different remedies. Without at all denying the extensive applicability of Aconite, we may say, that its sphere of action seems to lie principally in the arterial circulation; and, hence, it appears to be most specifically indicated in the inflammatory diseases of those organs which perform an important part in the circulation. All who have properly exercised the homœopathic method, are familiar with the excellent effects of this remedy in such cases; but all likewise know, that, in other cases, it has only power to moderate the vascular excitement, without affecting the form of the disease to which it does not correspond. But Aconite does not always deserve the preference in all cases where there is evidence of vascular excitement. Such a mode of procedure indicates a certain degree of superficiality; for the vascular excitation may be subdued without the intervention of this

medicine, by means of a remedy which is specific to the whole case, as is proved by the efficacy of Belladonna in many irritated conditions of parts in which the nervous system is predominant. Were the action of Aconite in inflammatory conditions unbounded, as some falsely suppose, hardly a single acute contagious disease would get leave to develop itself, if only Aconite were administered early enough; for all such diseases are preceded by a state of inflammatory irritation,—belladonna and other prophylactics would be thrown into the shade; but it is well known that in this respect there is still much to be desired. In the sometimes so violent excitations of the vascular system which frequently precede typhoid fevers, even such as are not infectious, Aconite is far from proving always of service; and indeed, I have latterly found Belladonna much more useful in such cases than Aconite, to which I formerly trusted too much. Every contagious disease has, however, its focus in some particular organ; and as hooping-cough may also claim to be a contagious (strictly a miasmatical contagious) disease, it would, at its commencement, demand remedies of a more specific character; and in reference to its probable seat in the pneumogastric nervous apparatus, Belladonna would appear to be not unfrequently indicated, if the cough at the beginning be of a spasmodic nature. In the catarrhal stage, however, and as long as the cough continues simple, and without any tendency to a spasmodic character, I imagine I have warded off the *stadium convulsivum* by means of *nux vomica*. This is, however, a ticklish question. Frequently, in many epidemics almost invariably, there is present an inflammatory chest-affection; and in these cases it is not easy to dispense with Aconite. It is, moreover, remarkable, that this remedy is said to be indicated by the essential nature of the disease, by persons who hold out hopes of a successful treatment of this disease only by the strictest individualisation. But is it true that the essential nature of hooping-cough is as varied as the numerous morbid symptoms which accompany this disease? or are these only accidentally connected with it, and is the large number of remedies recommended for it, directed rather against the concomitant symptoms? This disease, like several others, seems to prove that where many remedies are vaunted, the true remedy still remains undiscovered; whereas we have fewest remedies for those diseases which are treated with the most brilliant results.

Every homœopathic physician has, doubtless, remarked that, by the employment of

medicines selected in this manner, the concomitant symptoms disappear, but the hooping-cough itself does not always undergo a change. Thus I have often (not always!) succeeded in subduing the violent nocturnal attacks by means of conium, without thereby producing any alteration in the diurnal fits; chamomilla has relieved the concomitant diarrhœa of greenish matter, but the attacks of cough remained unaltered. In one child which had, in addition to vomiting during the severe attacks, great diarrhœa of a pale yellow color, and which passed its stools during every violent fit, *veratrum* removed the diarrhœa almost completely in a very short time, but the cough underwent little change. In a case of frequent vomiting *ipécacuanha* proved serviceable; and although this remedy frequently acted very advantageously on the attacks of hooping-cough, yet this was not always the case. Where the sputa were tough and expectorated with difficulty, *Bryonia* made them looser, but produced amelioration only in so far as the violence of the attack depended on this symptom, for the *stadium convulsivum* pursued its course unabated. The greater or less severity of the attacks, as also the different stages, seem to constitute the chief indications. The other symptoms, however, appear to be worthy of particular notice, only in so far as they are of themselves important, and thereby endanger life or the organism. Laughter, weeping, crosses, overloading of the stomach, &c., occasion, in every case a renewal of the attacks, because they act on the part of the nervous system affected; these, therefore, are little fitted to serve as indications for treatment.

Among the remedies which possess the power of relieving the *stadium convulsivum* (the most important stage,) I have found from experience, that belladonna and *ipécacuanha* answered best in this year's epidemic. *Cuprum* I found serviceable only in cases of suffocating fits during the cough. Belladonna appeared to act best in the commencement of the *stadium convulsivum*; *ipécacuanha* at a more advanced period of the same stage, when there was frequent vomiting of food. In the case of a girl of 3 years of age, belonging to this town, who, for 8 days, had frequent attacks of the characteristic paroxysms of coughing, each time with vomiting of mucus and food, along with frequent alvine evacuations and colic, and in whom laughter, weeping, crosses, large meals, &c., brought on attacks, these became slighter after the first two doses of *ipécacuanha*, the colic and diarrhœa disappeared, and in 14 days the cough was quite away. In one solitary case of a child of 18 weeks old,

which, after three weeks of ordinary cough, got the real hooping-cough, against which I had employed cuprum without effect; and where there were, at the same time, retching and slimy evacuations, China proved very speedily of service; for, after the second dose, the attacks lost their intensity and frequency, and, after a few days, nothing remained but a simple cough. In so young a child, there can be no question of an abortive form of hooping-cough. I could adduce several similar instances with regard to belladonna. In one case, conium and cuprum were employed without the slightest relief, not even were the severe nocturnal attacks, with vomiting, &c., moderated after conium; whereas belladonna changed the state of matters so, that the powder which was calculated for twelve doses was not all required. The boy had no third stage, and continued quite well.

I administered all the remedies in low dilutions, 6 to 12 drops in sugar of milk; and prescribed about the twelfth part to be taken after every severe paroxysm, generally about every 4 hours, seldom only twice or thrice a day.

I cannot help thinking, that it is only in the commencement of the *stadium convulsivum* that we may occasionally succeed in changing the character of the cough, and checking the further development of the disease. If this stage have already existed some length of time, and reached a certain height, the severity of the paroxysms may indeed be moderated, but the disease continues to pursue its course, thus presenting an analogy to the acute exanthemata. I doubt, however, whether there would be any particular disadvantage in subduing, or totally extinguishing, by the specific method, the paroxysms of cough themselves, in their highest stage of development.

We labor under a disadvantage in the treatment of infants at the breast, which makes us less successful than we might be,—I mean the influence of the nurse; for I have frequently distinctly remarked the effect produced on the attacks of coughing by the health of the nurse; so that a cold caught by the latter often causes the fits of coughing, which were on the decline, to return in all their severity. Affections of the mind in the nurse, and the occurrence of catamenia during nursing, were always accompanied with violent paroxysms of cough. Several infants at the breast, even of the most tender age, suffered from hooping-cough,—some even who never came in contact with other children, and had no brothers or sisters. It is not to be denied, that, under homœopathic treatment, the last stage runs a more rapid

course, just as acute exanthemata, under the same treatment, are attended by fewer consecutive diseases.

This year's epidemic was often complicated with croup, or inflammatory affection of the chest. Croup frequently came first and was followed immediately by hooping-cough; so that the premonitory catarrh symptoms contained the germ of both diseases. It is possible, that the germ of hooping-cough was first planted, and that, in a catarrhal stage, the croup was joined to it; that, however, the fully developed croup made its appearance before the characteristic symptoms of hooping-cough, because the latter, probably, demand a longer latent stage. We see something analogous to this in the class of exanthematous disease. When an inflammatory chest affection developed itself during the hooping-cough, few doses of Aconite, administered in rapid succession, sufficed to subdue the febrile symptoms to such an extent, that belladonna could then be administered as applicable to both affections, and generally acted splendidly. To this remedy I attribute the recovery of a scrofulous girl, who was previously in a bad state of health, and who, by this complication, was so severely affected that her parents had no hope of saving her. In many instances, this medicine does not require the aid of Aconite; when, for example, the cough is not dry, and the inflammatory fever not very violent.

Whether belladonna and ipecacuanha are deserving of particular attention in these cases in which there is a regular type; or whether they are applicable to such cases alone, is a question which I must leave to be decided by experience; but I wish here to call attention to the subject. In a little child, the paroxysms occurred regularly every two hours; but I was forced to employ means to combat too many other symptoms, to allow me to draw any conclusion from this case.

The close connection between hooping-cough and measles was again well exemplified in this epidemic; for, whilst the hooping-cough was pretty general here, the measles prevailed in Giessen, which is distant about 9 miles (as I am informed by a physician of that town.) I witnessed a case which fully proved that porriginous skin disease are not positively opposed to the contagion of hooping-cough. Co-existing with the porrigo, the hooping-cough attained a considerable development; and it was only when the latter reached its acme, that the exanthema dried up, which it had previously frequently done; but it broke out again, during the *stadium nervosum pertussis*.

The last stage is seldom observed by the physician, as the medicinal means are generally discontinued as soon as the paroxysms have lost their frightful character; but, as far as I could learn, it was, after my treatment, very short, in comparison with that of patients treated in a different manner. A child, under a year old, had the whooping-cough long and severely; it was frequently quite comatose. I obtained some evident amelioration, notwithstanding many complications; but affections of the mother always did away with all the benefit obtained. After the cessation of the characteristic paroxysms, I gave a few doses of sulphur for some irritation of the skin; and the child had only for a short time longer some mucous expectoration: whereas other children otherwise healthy, had to undergo a long consecutive stage, although they had been previously much less severely affected. In some instances there was no appearance of a third stage; in those, namely, in which the paroxysms were early subdued.

The mortality was small; for till now (the 3d of April, 1839,) only a few children have died (under other treatment,) I believe, by suffocation during the fits. It has hitherto been my good luck not to lose any patient in whooping-cough.

The prevalence, for some time back, of east and north-east winds, seems to have caused a decline of the whooping-cough; and instead of it we have croup, of which disease I have, within the last few days, had a greater number of cases.

ZYMOTIC DISEASES---FEVER.

Typhus and typhoid.—The French Academy has for a considerable period since the date of our last Report been occupied by discussions respecting one or two points of great importance in the pathological history of fever. The questions of essentiality or non-essentiality, of its dependence or non-dependence upon inflammation of the Peyerian glands, have at length ceased to be agitated, and in their place we have that of the identity or non-identity of typhoid with typhus fever, and of its contagious nature. The discussion on these points originated in the presentation of a memoir by M. Gaultier de Laubry,* in which both propositions were distinctly affirmed. M. Rochoux, who opened the debate which ensued, denied the identity of the two diseases on these several grounds. 1. That typhus was contagious, typhoid fever not so. 2. That the former

attacks at all ages, the latter rarely occurs before 15, or after 40. 3. That the peculiar delirium and eruptions of typhus are not observed in typhoid fever; and lastly, that the duration of the two affections is different, being in the one case from ten to fifteen days, in the other, from twenty to thirty.

This confessedly intricate question is extremely well reviewed by a writer in the Dublin Journal,* who discusses the objections of M. Rochoux *seriatim*, after the following manner:—

The first point of difference which M. Rochoux seeks to establish, is the circumstance of contagion. This argument the author of the article alluded to shows to be of little value, as the typhus of Ireland is not always contagious, any more than the typhoid fever of Paris. As a proof of this, he states that out of 9-588 cases of fever admitted into the Belfast Hospital, no trace of contagion could be discovered in 2-342.

A second ground of distinction much insisted upon, is the different ages at which the two diseases occur. This is opposed by the author for two reasons: 1st. That much error is committed in estimating age, from the omission to notice the fact, that as it is the custom for the youth of both sexes to congregate in Paris from all parts of the French dominions, the majority of patients of all classes must necessarily be near the age of puberty. 2d. That the reason why typhoid fever is said never to occur in children, is that the French pathologist is apt to deny the existence of the disease, unless he has an opportunity of seeing the diseased bowels, which, as children comparatively speaking seldom die of fever, he has but little opportunity of doing. But, as the author observes, the objection is completely reversed by the fact, that cases are on record in which the rose colored spots of fever were visible even at birth. On the other hand he remarks, that the true typhus of Ireland is equally rare among children with the typhoid fever of France, and equally uncommon among aged persons, since of 11,269 cases admitted into the Belfast Hospital, 301 only were under 6 years of age, and 171 only were over 60. The other objections of M. Rochoux meet with the same opposition at the hands of the author, who therefore concludes that there are no just grounds for regarding the two diseases as distinct affections, but that the most which can be said is that they are varieties of the same type of fever.

The contagiousness of typhoid fever asserted by M. Gaultier de Laubry is likewise

* Revue Medicale, and Archives Gen., Juillet, 1845.

* September, 1845.

maintained by M. Jacques,* and M. Patry,† the former of whom affirms that the disease never quits a house until every person has been attacked who is predisposed; and that it is extremely rare to see the inhabitants of the same lodging, down with the fever at separate times, with an interval of more than a fortnight, the usual limit of the period of incubation.

In the treatment of fever we might gain but little information from the writings of the last few months. The plan pursued by M. Jacques, is the combination of emetics and purgatives, with the constant application of cold to the head and abdomen. The same treatment is likewise recommended by Professor Huss,‡ with the addition of frequent ablution with chlorine water, and the exhibition of opium, musk, and phosphoric acid. The latter medicine was found particularly serviceable in the adynamic forms of the disease, and it is somewhat remarkable that the professor takes the same symptom as an indication for the employment of this medicine, which is mentioned by Dr Graves as indicating the necessity for wine, namely, a feebleness of the first sound of the heart, and its approach in character to the introduction of the second sound.

9. *Typhus material.*—It is a favorite theory with the German physicians, that during the progress of typhus fever, a certain morbid material, said by Rokitsansky to resemble medullary sarcoma, is poured out from the blood into the texture of various organs. Vogel,§ among others, has paid much attention to the point, and has published observations which have recently been translated by our talented reporter on anatomy and physiology, Mr. Kirkes. It would seem that the parts most liable to become the seat of the above-mentioned material are the mucous membranes, but it may also appear in the substance of the denser organs. The action which precedes the deposition of the typhus material, is said to be inflammatory, and to affect especially the solitary and aggregate glands of the small intestines. The most important transformation undergone by the typhus material after its deposition is its conversion into a brownish slough, which upon separation leaves the typhus ulcer. The material examined by the microscope is seen, according to Vogel, to consist of an amorphous granular product of a brownish-white

color, and containing cells of 1-300th of a line diameter; some nucleated.

The subject of the typhus material has also been taken up by Engel.* This author has observed it under two forms, a fluid and a solid, usually combined; the fluid matter is viscid and opaque, and when allowed to rest, throws down an abundant sediment of epithelial cells and phosphate crystals; the solid matter, as observed by Vogel and Rokitsansky, is chiefly found in the intestinal follicles. The processes of ulceration and reparation are faithfully described by Engel, as well as certain anomalies to which the diseased product is occasionally subjected; for a detailed description of these, we must refer the reader to the original.

10. *Yellow fever.*—The pathology of this severe malady, which has lately been invested with unusual interest from its appearance on our shores, is ably treated of in a communication from the pen of Dr. Nott,† of Mobile, giving the particulars of several epidemics witnessed by him in that locality. In seeking to determine the nosological status of this fatal disease, he comes to a conclusion, of the truth of which little doubt can be entertained, namely, that it is a special fever, and like other fevers, subject to considerable variations in its leading characters, according to the local or individual circumstances under which it arises. The author eulogizes, as every candid reader must do, the philosophical researches of Louis upon the disease as it occurred in Gibraltar, but finds it necessary to differ from him in some particulars. Louis, as may be remembered, considers the leading characteristic of yellow fever to be a "peculiarly anemic and friable condition of the liver, giving to it the color of butter." This appearance was not found by Dr. Nott as a general rule, being present in only one-third of his cases. It may be observed, however, that Dr. Imray,‡ to whom we are also indebted for an essay on the fever in question, sides with Louis.

Dr. Nott has examined with great minuteness the condition of the blood and secretions in yellow fever. As in other fevers, the blood was found to be dark and grumous, and exhibited but little disposition to coagulate. The peculiar and fatal symptom, the black vomit, is decided by actual experiment to be blood, modified by admixture with the acids of the stomach.

* Reported in Archives Gen. de Med., Aout, 1845.

† Gazette Medicale, No. 21, 1845.

‡ Gazette Medicale, No. 21.

§ Erläuterungstafeln zur Pathologischen Histologie, and Med. Gazette, Oct. 31.

* Schmidt's Jahrbuch, No. 7, 1845, and Med. Gazette, Oct. 31.

† American Journal of Medical Sciences, April, 1845.

‡ Edin. Medical and Surgical Journal, October, 1845.

The causes of yellow fever are discussed both by Dr. Nott and Dr. Imray; the former, however, goes no further than to admit, what cannot in the present day be doubtful, that it is a poison which by some means or other gains admission to the blood, and then propagates itself by zymotic action. He does not pretend to decide whether the poison is of animal or vegetable origin. Dr. Imray examines the question upon a more extended basis, and discusses the opinion held by some, that the exciting cause is of malarial origin, differing only from that which originates the intermittents and remittents of tropical climates, in the degree and concentration of its effects. He considers this opinion to be a fallacy, since there are many localities, as the islands of Dominica and S. Lucia for instance, in which circumstances necessary to the development of malaria exist in a high degree, without the production of yellow fever, while, on the other hand, in the neighboring island of Barbadoes, to which intermittent fever is comparatively a stranger, yellow fever forms a fearfully large item in the bills of mortality. Another reason which he considers to militate against the identity in origin of yellow with intermittent fever, is the fact that the former does not appear to be influenced either by season or temperature, being equally rife in wet seasons and dry; when the temperature was high, and when it was low. In this he is quite borne out by the observations of Rufz.*

11. *Intermittent fever*.—M. Piorry has lately adopted the strange opinion that ague is not, as it is generally held to be, the cause of the enlarged condition of the spleen with which it is associated, but, on the contrary, that the hypertrophy of this organ is the exciting cause of the febrile paroxysm. True to his belief, he has lately recorded a case which proved rebellious to quinine, and which was at length cured by the application of a bandage preventing the descent of the enlarged spleen. The paroxysms are supposed by him to depend upon traction exercised upon the splenic plexus of nerves.† At a late meeting of the Académie de Médecine,‡ M. Savielle denied the influence of miasmata in the production of intermittent fever, and attributes the disease to the sole agency of cold and damp; the opinion, as might be expected, met with decided opposition from the majority of the members present. In the treatment of ague, M. Trou-

seau* advises the exhibition of quinine in a single large dose, rather than in repeated small doses; he states that he has known an obstinate case which had resisted an ounce of quinine given in the ordinary way, to yield at once to a single dose of fifteen grains. The same opinion as to the efficacy of large doses, it may be remarked, is held by Dr. Elliotson (vide Watson's Lectures, vol. i., p. 747,) and has recently been acknowledged by Dr. Chambers,† of Colchester. The *Achillea millefolium* has also recently been employed with success as a substitute for quinine, by an Italian physician.

THE DISSECTOR.

APRIL 1, 1846.

New Evidence on the Extensive Range of Tuberculosis.

In nothing is the progress of Medical Science, at the present time, so strongly marked and impressively distinguished, as in the new evidence now rapidly accumulated and clearly presented, of the wide range and dominion of tuberculosis in the human system. Indeed so vast in amount, and so forcible in undeniable proof is this evidence, that it must of necessity, within a brief period, render a new classification of diseases absolutely imperative upon the profession. As our nosology now stands, this disease, when occurring in different organs, is classified as different diseases, requiring different treatment. The new evidence demonstrates that tuberculosis is one and the same disease in whatever organ or part of the system it may be found, and consequently requires essentially the same treatment. Another most important and influential fact is that tuberculosis is specifically and exclusively a disease of the serous surfaces or membranes; and that whilst it is found in each and every portion of these, the mucuous membranes and surfaces are exempt from its attacks, and have their own peculiar and distinctive class of maladies. Every day contributes substantial foundations for this bold and novel conclu-

* Gazette Medicale, No. 37, et seq.

† Gazette Medicale.

‡ France, Sept. 16, reported in Med. Times, Sept. 27, 1845.

* Journ. de Med., Mars, 1845.

† Provincial Medical Journal, Oct. 29.

sion, and the time can now scarcely be remote when it will become so firmly and broadly established, in the sight of the whole world of science, as to demand a grand simplification of all diseases into the dual division 1 SEROSIS, and 2 MUCOSIS, each of these requiring but the equally brief and simple subdivision, of 1 *Acute*, and 2 *Chronic* SEROSIS; and 1 *Acute*, and 2 *Chronic* MUCOSIS.

It is well known that we discovered this fact in comparatively early life, and have adopted and practised upon this simple classification for a great number of years, during many of which we stood alone beside the altar of this great truth, the solitary minister of its flame, waiting in patience and hope, until the morning of greater light should come. We now happily see it brightly dawning, and doubt not its advancement to meridian day.

To the able and unanswerable papers upon *tuberculosis* from eminent French, German, English, and American authorities, which we have republished in this journal and in our other medical works, we have now the pleasure of adding one, "On the Pathology of Tuberculosis," by Dr. Cless, of Stuttgart, and commend it to the close and candid perusal of our readers. It is so luminous and generally unexceptionable as to call for no special remark, except in reference to the following paragraph:—

"The question whether a physiological law may somewhere be established according to which the development and distribution of tuberculosis in the several organs may be ranged, can hardly yet be answered."

We here deem it a duty not less to ourselves than to the interests of truth and humanity to state, that this question is already answered, and the law here sought already found and established, in our own method of detecting tuberculosis, in the several organs and limbs, by pressure on the posterial spinal ganglia, in the intervertebral spaces, and of determining the precise seat of the disease, by the pain, more or less severe, which that pressure excites. The symptoms by which this law is established, we have published in detail in this and various other works; as yet we have found no exception to them,

in an extensive daily practice of more than thirty years, and have, therefore, no expectation that any such will hereafter be found.

The Magnetic Machine in Intermittent Fevers.

We have already described the prompt and efficient action of this machine, in subduing the most violent paroxysms of fever, but were not at that time aware of its equal efficacy in the cold stage of intermittent fevers. We can now, on the authority of a number of physicians as well as private individuals, confidently recommend its use in this case, as the cold chills are mitigated immediately, and cease altogether, in a few minutes after the commencement of the action of the magnetic machine. We are, moreover, assured that the chills, and consequently the fever, very rarely return, this circumstance, therefore, is well worthy of the attention of physicians in the Western and Southern States, and indeed wherever this disease is prevalent.

True Science versus "Young Physic."

To the Editor of the Tribune:

Being a constant reader of the Tribune, my attention has been attracted to the various articles on the subject of medical science, and the several modes now in vogue for treating diseases. The Chrono-Thermalist, the Homœopathist, the Hydropathist, the No-pathist and the Every-pathist, with Doctor Brandreth, Dr. Kelly, Dr. Taylor, Dr. Chrystie, and the whole race of anti-Allopaths, seem to have united their forces, and employed the Tribune as their organ, to crush the truth, as it is found in the old and still regularly and steadily pursued theory and practice of medicine. I do not wish to find fault with you for your course in this respect, for you have as a man an undoubted right to express your opinion on any matter, however unacquainted you may be with its true nature, and you have a right also to permit others to use your columns for the purpose. But I question the wisdom of making the Tribune or any other ordinary newspaper a *Medical Journal*, even under the pretence of enabling the people to decide what is true science and what is not. But when the writers of these articles occupy your reading columns with puffs of themselves and their systems, and especially when they throw out silly and unjust insinuations about the "indiscriminate use of the lancet, calomel and their violent allies," &c

&c.—when the opinion of some great writer abroad, who perhaps never looked beyond the title of a medical book, or of some learned divine, or eminent lawyer, who never took a dose of medicine, is quoted in derogation of the labors and studies of truly scientific men, and in favor of these numerous, half-fledged, “Young Physic” systems, I think I have a right to complain, and at least to ask room for an attempt to put the matter right before the public. In doing so, I would not endeavor to defend the science of medicine; it is far from needing it. Its investigation and improvement are pursued with steadiness, and an ardor unsurpassed in any former time; and as well may we look for an overturning of the truths of Christianity by the spread of Mormonism, as for a prostration of the science of medicine by any of the new-fangled notions of the day, or all of them combined. And why? Simply because it is based upon *well proved principles*. The people, ignorant of the truths of medicine, may be induced to say to the regular practitioners, ‘You are humbugs, and we will take no more of your big, disgusting doses—we intend in future to be cured by some one of the more modern and fashionable *systems* of medicine!’ but will that destroy the truths of physiology, pathology, or therapeutics, as they have become established by long years of research and experience?

The most serious effect of these attempts to weaken the confidence of the public in the true science, and to build up the fortunes of their projectors, is, that by a withdrawal of the support which is needed by its votaries to prosecute their studies and to increase their experience, they become discouraged and their investigations are retarded. Every dollar put into the hands of Charlatanism, is so much taken from the support and encouragement of science. The Charlatan only is benefited in person—while true science loses its means of improvement.

But who is to decide what is true science and what is not? Amid the conflicting claims of all these *isms* (not forgetting Thomsonianism, once the *hottest* of all,) who is entitled to sit in judgment and decide which is right? You will perhaps reply the *public*, who are most interested in the result. But are not those who have devoted their whole time to these studies the most capable of judging between truth and error in their own art? As well might the science of geology or chemistry be submitted to the popular vote. As well might a physician who never looked into a law book, sit upon the Bench of the Supreme Court, as a law-

yer or mechanic who knows not the difference between ipecac and rhubarb, or is unable to distinguish the lungs from the stomach, be asked to decide that Allopathy, Homœopathy, &c. are all wrong, and Chrono-Thermalism is all right. Were I a proselyte to either of these notions, I would not give a straw for the favorable opinion of any non-medical man, *except I could make money by it*, which is the principal object of those who seek it.

But I go farther, and say that the public is not alone interested in knowing which is the best and truest mode of medical practice. The aim of medical science is to cure diseases in the speediest and surest manner, and it is the duty and *interest* of the physician to discover that mode.

Every far-sighted practitioner knows, and has lately been made to feel, that it would be for his *pecuniary* advantage to join in the popular cry against the old and well established principles of medicine, and in favor of the Homœopathic System; but I regard it as in the highest degree honorable to the profession that so few of them have been weak enough to forsake the truth, for a present temporary gain. While they are anxiously seeking all possible light to guide them in their duty to the sick, the public should feel that the profession has no interest beyond their benefit, and that if either Homœopathy, Chrono-Thermalism, Hydropathy or Thomsonianism were proved true, or even reasonable, the enlightened men of the Profession would at once see it so, and adopt it. But they alone are the proper judges of the right in these matters.

These inflammatory and disingenuous appeals to the prejudices of the public through the daily press, are therefore highly disreputable and injurious to the public welfare and can be made for no other purpose than benefiting the pockets of those who make them. If their authors are honest in their opinions and are members of the profession, let them expend their logic in such a way as will convince practical physicians of the truth of the opinions they hold. The medical press is open to them, and that alone is the proper place for such discussions—provided they write and act as the truly honest seeker after the right should. By appealing to the public, who are manifestly incapable of giving an enlightened opinion on such profound matters, they exhibit their weakness, unless they merely wish to profit by popular prejudice, which is *prima facie* evidence of their want of an honest disposition for scientific improvement. M. D.

Remarks by the Editor of the Tribune.

Having given M. D.'s phillippic *verbatim*, we claim the privilege of telling him what we think of it. And first, we find it exactly paralleled by a Pharisaic inquiry and denunciatory assertion in John's Gospel, vii. 48: "Have any of the *rulers* believed on him? [Christ.] But this *people*, which knoweth not the law, are cursed?" Next, we will state our strong conviction that the advocates of Homeopathy, Hydropathy, and other radical innovations on the old system of medicine, have *not* "the medical press open to them," and would *not* be allowed to explain and advocate their views freely and fully through the more orthodox and popular channels of medical discussion. Neither is the *mind* of the medical faculty generally open to the reception of truths which sweep away a foundation on which their several superstructures of fame and fortune are erected. Our missionaries to pagan lands rarely think of beginning the work of conversion on the chief priests of the countries they work in, however learned these may be in science and theology. It was no eminent lawyer but a thorough soldier who in the 'Code Napoleon' effected the mightiest legal reform the world has seen. But space fails us. Suffice it that we allow the advocates of relative novel theories of healing an occasional and generally brief hearing through our columns, because we believe they cannot obtain a fair hearing otherwise. To each new thought which our time evolves, we are disposed to say, 'As a stranger, give it welcome!' If it be an error, that will soon be made manifest; and we choose not to treat inhospitably any of the disguised angels which a Paternal Providence is continually sending for the guidance and blessing of our Race.

To the above just and candid remarks of the independent editor of the *Tribune*, it may not be inappropriate to add, that the present panic outcry of the regular profession against the quacks, and of which the above letter of M. D. is merely a natural and irrepressible specimen, will be made in vain, through all the moods and tenses of indignation, until the former discover the true cause of that success and popularity of the latter, which so highly excites their apprehension and ire. That cause, we hesitate not a moment to declare, is to be found only in the want of knowledge and skill, and consequently of success, in those by whom this hopeless outcry is raised. Quackery flourishes more

rankly than ever, not in the increasing ignorance of the popular masses—for that is uncontestedly diminishing every day—but in the non-advancement of the regular profession, which is so flagrantly behind the age. In many respects, it is even ludicrously and contemptibly so; and in almost every department, except the distinctly surgical, the multitude have found by experience that the audacious quack effects as many cures as the pompous professor, and at less cost. The great secret is now discovered, and universally proclaimed, that, in nine cases out of ten, however diversified in character or degree, the regular practitioner, who calls in his carriage, prescribes cathartics, as a conjecturally safe and comprehensive foundation for further experiments and a future bill; and it is equally well known that the quacks do precisely the same thing, with rival if not superior success. The physician's general prescription is usually almost identical with the quack's general compound; and the skill and judgment exercised in the generalization of the latter, are at least equal to the learned discrimination and reflection which are presumed to dictate the former. But the quack has this manifest advantage—his cathartics, anodynes, or tonics, are always ready at hand, nicely and even elegantly prepared, and, above all, thoroughly recommended by the voluntary and grateful testimonials of hundreds of persons, real living beings, of unimpeachable character, whom these self-same quack remedies have essentially relieved or cured. And what has the regular practitioner to say to these things? Literally nothing, to any effect; he may sneer, and scoff, and rail, until the whole circle of his patients and friends become convinced that his emotions are very different from those of mere contempt; but he cannot rail such testimonials from the record, nor recovered health from observation and experience.

The fact is, and the truth may as well be spoken, the great majority of the regular profession, are as utterly ignorant of the true symptoms and treatment of a very wide range of chronic diseases, and of the administration of the true remedies, as the lowest

quack that never read a book nor heard a lecture. Is it any wonder, then, that the mere quack who has so extensive a scope for the application of his general panaceas, so wide a field from whence to call testimonials to their efficacy, should leave the medical tortoise far behind in the race for popularity and fortune? The prosperity of the quack, is the reproach of the profession. If the educated physician were really learned and skilful in his profession, according to his exclusive claims and pretensions—if he really kept pace in his practice with the progress of science and discovery—if he were as docile in learning as he is conceited and intolerant in teaching—quackery would wither and vanish, or at least be confined to the entirely illiterate and unreflecting portions of the community, instead of attracting, as it now does, the attention and respect of the most liberal and enlightened, and deriving its most lucrative support from the wealthy and influential. It is not the people but the profession who are responsible for the prevalence and palminess of quackery, and for the retardation of true medical science from whence it springs and which it tends to perpetuate. If medical men were really what they pretend and claim to be, patients would no more think of resorting to the quack, than they would apply to a blacksmith to repair a watch, or to a stone mason to set a diamond.

Ed. Dis.

A communication has been made to the Paris Academy of Sciences, by Mr. Eseltze, relative to some experiments with the electro-galvanic light obtained by Bunsen's apparatus. The writer states that he causes this light to enter a dark room through an opening in a screen or shutter, and then, with the aid of powerful reflectors, is able to distinguish the internal parts of the human body. The veins, the arteries, the circulation of the blood, and the action of the nerves, are, he says, seen by him with perfect distinctness; and, if the light be directed towards the region of the heart, he is able to study all the mechanism of that important organ as if it were placed before him under a glass. The author even asserts that he has ascertained the existence of tubercles in the lungs of a consumptive patient, and gives a drawing of them as they appeared. On rubbing the skin

with a little olive oil, the transparency becomes augmented, and he was enabled to follow the process of (digestion!)

REMARKABLE PHENOMENON.

The following narrative deserves, and will from the thoughtful receive, the greatest attention, authenticated as it is by the names engaged in the investigation. The name of Arago precludes all suspicion of quackery, credulity, or inaccuracy. The facts are of a class which claims daily more and more attention and seems to promise light as to VITAL DYNAMICS—those motive causes which, because so closely interwoven with all our thoughts, have hitherto almost wholly eluded the cognizance of the Intellect. We have not been able to get a point of view distant enough from our habits and prejudices to see from.

Translated for the N. York Daily Tribune from the Courier des Etats Unis.

The Academy of Sciences was much moved, at its sitting on the 16th of February, by an account of the most extraordinary phenomena. This recital was given to the illustrious assembly by M. Arago, with the spirit and courage of a man who does not fear being misunderstood. We repeat the facts for our readers. Angelica Cottin, a child of 13 years, is a villager of the department of Finistere and works in a manufactory of ladies thread gloves. She knows how to read and write, though of only mediocre intelligence. In the early part of January last she was winding silk with her workshop companions when suddenly the cylinder which she turned was thrown to a distance. Not knowing how to explain that accident the young girls replaced the cylinder and recommenced their labor. But the same event recurred and they soon perceived that Angelica Cottin was the cause of the extraordinary occurrence. General terror was communicated to the entire village. They ran to the curate who exorcised the young girl and pronounced the "Vade retro Satanas," (Get thee behind me, Sa'an.) But the curate having thrown away his holy water and his Latin, was obliged to conclude that Satan had nothing to do with the phenomenon, consequently the physician succeeded to the curate. Accompanied by the physician and her father and mother, Angelica came to Paris. She was conducted by M. Arago to the observatory, and it was in his presence and before Messieurs Laugier and Goujon that the following observations were made and mentioned. It is the left side of the body which appears to acquire this, sometimes attractive, but more fre-

quently repulsive property. A sheet of paper, a pen or any other light body being placed upon a table, if the young girl approach her left hand, even before she touches it, the object is driven to a distance as by a gust of wind. The table itself is overthrown the moment it is touched by her hand or even by a thread which she may hold in it. This causes instantaneously a strong commotion in her side which draws her toward the table, but it is in the region of the pelvis that this singular repulsive force appears to concentrate itself. As had been observed the first day, if she attempted to sit, the seat was thrown far from her with such force, that any other person occupying it was carried away with it. One day a chest upon which three men were seated, was moved in the same manner. Another day, although the chair was held by two very strong men, it was broken between their hands. These phenomena are not produced in a continued manner. They manifest themselves in a greater or less degree, and from time to time during the day, but they show themselves in their intensity, in the evening from 7 to 9 o'clock. Then the girl is obliged to continue standing and is in great agitation. She can touch no object without breaking it or throwing it upon the ground. All the articles of furniture which her garments touch are displaced and overthrown. At that moment many persons have felt, by coming in contact with her, a true electrical shock. During the entire duration of the paroxysms, the left side of the body is warmer than the right side. It is affected by jerks, unusual movements and a kind of trembling which seems to communicate itself to the hand which touches it. This young person presents moreover a peculiar sensibility to the action of the magnet. When she approaches the north pole of the magnet she feels a violent shock, while the south pole produces no effect, so that if the experimenter changes the poles, but without her knowledge, she always discovers it by the difference of sensations which she experiences. M. Arago wished to see if the approach of this young girl would cause a deviation of the needle of the compass. The deviation which had been foretold was not produced. But perhaps the phenomena did not exist at that moment in their greatest intensity. The electrical fishes themselves exercise no action upon the magnetic needle, excepting by the aid of particular precautions. The general health of Angelica Cottin is very good. We must nevertheless consider her as being in a diseased state. The extraordinary movements, the paroxysms observed every evening, resemble what one observes in some nervous maladies. An-

gelica feels herself violent commotions every time that a discharge of the influence takes place. Her wrist is subjected to a sort of rotation upon itself and she is in a state of great suffering during all the continuance of the attack. M. Arago has requested the Academy of Sciences to appoint a commission to examine Angelica Cottin. The Academy have named a commission composed of MM. Arago, Becquerel, Babinet, Rayer and Pariset.

ANIMAL ELECTRICITY.

In the muscles of living animals, as well as of those recently killed, an electric current exists, which is directed from the interior of each muscle to its surface. The duration of this muscular current corresponds with that of contractility: in cold-blooded animals, therefore, it is greatest; in mammalia and birds it is very brief. Temperature has a considerable influence on the intensity of the current, a small amount of electricity being developed in a cold medium, a larger one when the medium is moderately warm. The muscular current appears to be quite independent of the nervous system. It is uninfluenced by narcotic poisons in moderate doses, but is destroyed by large doses, such as kill the animal. The development of this muscular current seems evidently to depend on the chemical action constantly taking place as an effect of the changes accompanying nutrition; these organic changes, in short, give rise to an electric current, just as do the chemical changes attending the mutual reaction of inorganic materials, such as the reaction between a plate of metal, and an acidulated fluid in the ordinary voltaic pile.

That considerable chemical changes attend the process of nutrition in muscle, seems evident when we consider the constant supply and waste of material of which it is the seat, and the evolution of sensible heat which accompanies its contraction; in this way the generation of electricity can be readily accounted for; the muscular fibre represents the metal acted on in the arrangement of the voltaic apparatus, and the arterial blood corresponds to the acidulated fluid. The surface of the muscle, which is more or less tendinous, and therefore different in structure and in function from the interior, represents the second plate of metal used in the voltaic apparatus, which does not suffer chemical action, but which only serves to form the circuit. The direction of the muscular current, therefore, from the interior to the surface of the muscle is just such as might be expected, supposing it to be due to a chemical action taking place in the interior of the muscle.—*Matteucci.*